1992

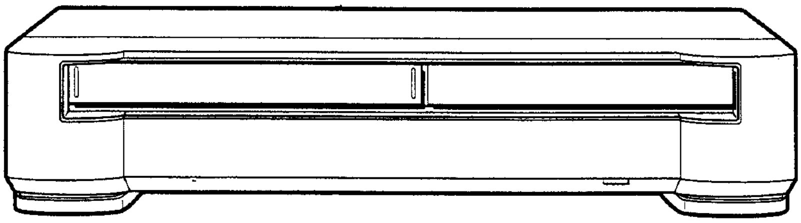
MITSUBISHI

Service Manual

VIDEO CASSETTE RECORDER

VIDE-V16264

VHS
PAL



MODEL

HS-M57(B)
HS-M57(E)
HS-M57(IR)
HS-M57(Y)

Only cassettes marked VHS can be used with this video cassette reorder.

SPECIFICATION

Tape Format : VHS 1/2" high-density video cassette tape

Power Source : AC 240 V;50 Hz [B]
AC 230 V;50 Hz [E,Y]
AC 220 V;50 Hz [IR]

Power Consumption : Approx. 32W

Television System : 625 lines, 50 fields
System CCIR IPAL [B,IR]
System CCIR B&G PAL [E,Y]

Video Recording System : Azimuth helical scanning system

Luminance : Frequency modulation recording

Colour Signal : Low frequency conversion sub-carrier phase shift recording

Hi-Fi Audio Recording System : Azimuth helical scanning system,Frequency modulation, deep layer recording

Linear Audio Track : 1 track

Tape Speed : 23.39 mm/sec (PAL SP mode)
11.70 mm/sec (PAL LP mode)
33.35 mm/sec (NTSC SP mode)
11.12 mm/sec (NTSC EP mode)
[NTSC mode (IR) only]

Record/Playback Time : 240 min. with E-240 cassette (PAL SP mode)
480 min. with E-240 cassette (PAL LP mode)
160 min. with T-160 cassette (NTSC SP mode:playback only)
480 min. with T-160 cassette (NTSC EP mode:playback only)
[NTSC mode (IR) only]

Heads:Video : 4 rotary heads

Hi-Fi Audio : 2 rotary heads

Audio/Control : 1 stationary head

Erase : 1 full track head

Video input : 0.75 to 1.5 Vp-p, 75 ohm unbalanced EURO AV socket

Audio Input:Line : –8 dBs, 50k ohm unbalanced EURO AV socket and RCA pin plug

Video Output : 1.0 Vp-p, 75 ohm unbalanced EURO AV socket

Audio Output : –6 dBs, 1k ohm unbalanced EURO AV socket and RCA pin plug

Reception Frequency

VHF : 47~89, 104~470 MHz [E]
47~118, 118~300 MHz [Y]
44~89, 104~300 MHz [IR]

UHF : 470~870 MHz

Operating Temperature : 5°C to 40°C

RF Channel Output : Set to Channel 38[B,IR]/Channel 36 [E,Y]
Channel 32~40 selectable

Weight : Approx. 6.5kg

Dimensions : 425(W) × 97(H) × 343(D)mm

Timer : 8 programmes for any channels in one month/every day/every week day
24 hour digital synchronized with crystal oscillator frequency.

Channel Selection : 99 position Up/Down + EXT

Deck : F-Deck

- Weight and dimensions shown are approximate.
- Design and specifications are subject to change without notice.

MITSUBISHI ELECTRIC

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CIRCUIT DIAGRAMS

DISASSEMBLY

1. Removal of Top Cover

A. Remove four screws (ⓐ ~ ⓓ) retaining the top cover as shown in Fig. 1.

B. Gently expand the bottom edges of the top cover, pivot cover forward, then slide toward rear in the direction of the arrows.

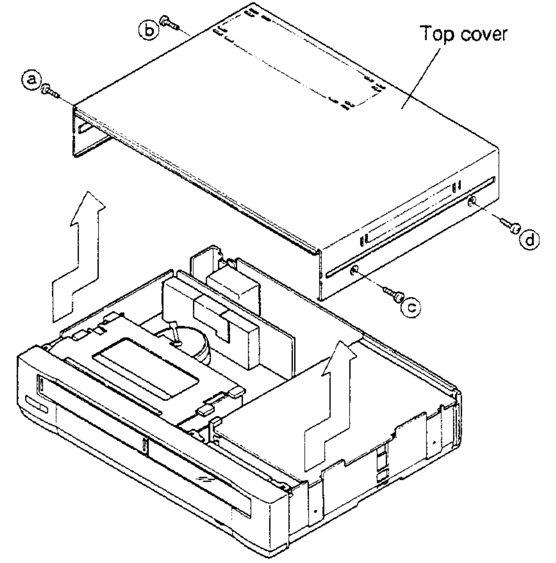


Fig. 1

2. Removal of Front Panel

A. Remove the top cover (item 1).

B. Unfasten six snaps (ⓐ ~ ⓕ) as shown in Fig. 2, and remove the front panel in the direction shown by the arrows.
Note:
When unfastening two snaps (ⓓ , ⓕ), lifting the snaps, inserting straight driver to between front insulator and snap as shown in Fig.3.

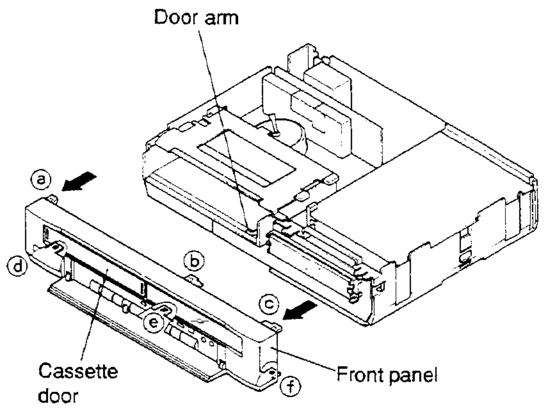

Door arm
ⓐ
ⓓ
ⓑ
ⓒ
ⓔ
Cassette door
ⓕ
Front panel

Fig. 2

3. Installation of Front Panel

A. Check that the door arm is in low position.

B. While holding the Cassette door open, mount the front panel to the VCR and fasten six snaps (ⓐ ~ ⓕ) using gentle pressure to the front panel as shown in Fig. 2.

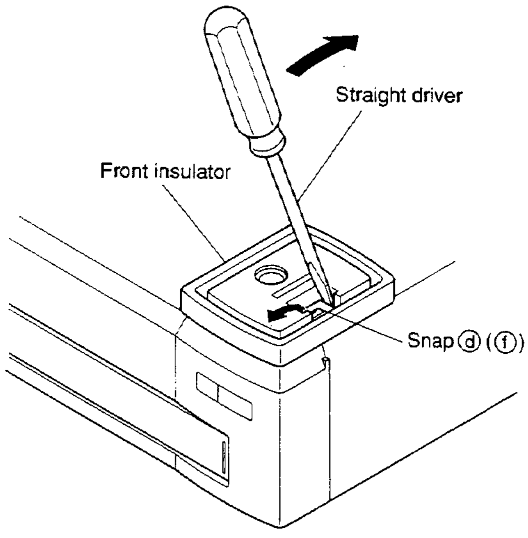

Straight driver
Front insulator
Snap ⓓ (ⓕ)

Fig. 3

4. Removal of Bottom Cover

A. Remove twelve screws (ⓐ ~ ⓛ)retaining the bottom cover as shown in Fig.4.
B. Remove the bottom cover.

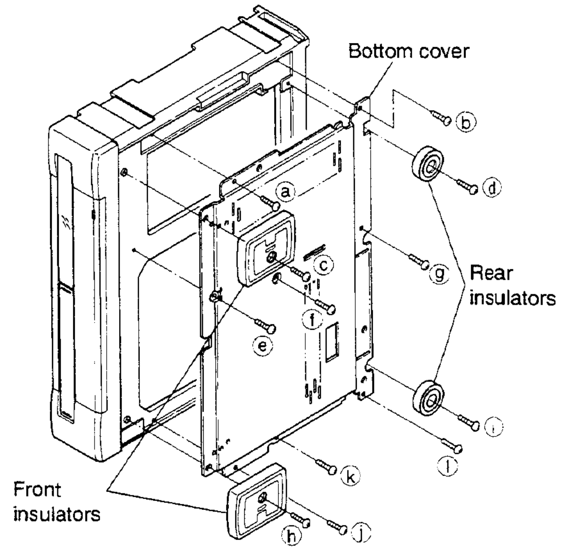

Bottom cover
ⓑ
ⓓ
ⓐ
ⓒ
ⓖ
Rear insulators
ⓕ
ⓔ
ⓘ
ⓛ
ⓚ
Front insulators
ⓗ
ⓙ

Fig. 4

SERVICING THE PRINTED CIRCUIT BOARDS

CAUTION: BEFORE ATTEMPTING TO REMOVE OR REPAIR ANY PCB, UNPLUG THE A.C. SOURCE.

Location of Printed Circuit Boards
(Refer to Fig. 5)

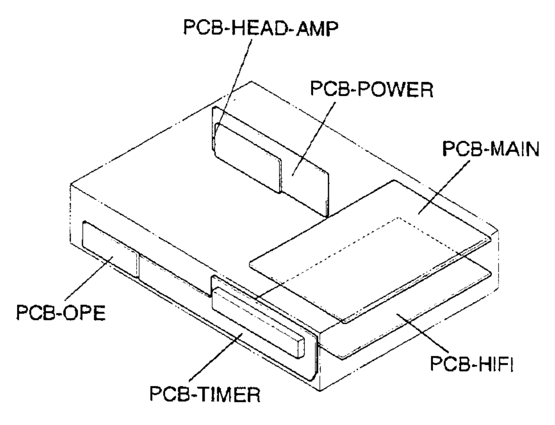


Fig. 5

Note:
Use caution when disconnecting the flat cable connectors to avoid possible contact problems when reconnected.

1. Removal of PCB-MAIN

A. Remove the top cover. (Page 1, Item 1)
B. Remove five screws (ⓐ ~ ⓔ), as shown in Fig.6.
C. Pivot the PCB-MAIN in the direction of the arrow.
D. Hang the edge of PCB-MAIN to the holder on the frame

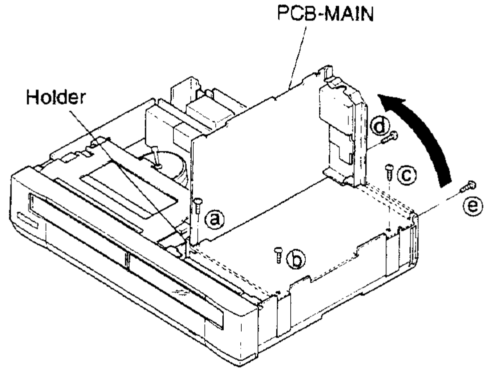


Fig. 6

2. Removal of PCB-HIFI

A. Remove the bottom cover (Page 2, Item 4) and the service of the PCB-HIFI will be available
B. If it is necessary to remove the PCB-HIFI comply with the following steps.
   a. Remove the PCB-MAIN.(Item 1)
   b. Remove two screws (ⓐ,ⓑ) retaining the PCB-HIFI, as shown in Fig.7.

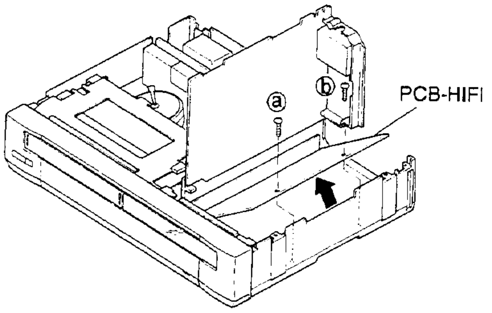


Fig. 7

3. Removal of PCB-TIMER and PCB-OPE

A. Remove the front panel. (Page 1, Item 2)

B. Unfasten five stoppers(ⓐ~ⓔ), and remove the PCB-TIMER and PCB-OPE, as shown in Fig. 8.

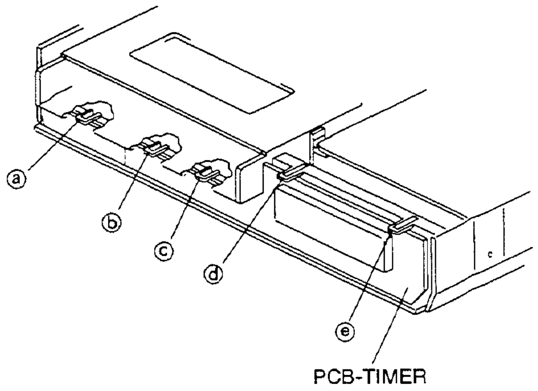


Fig. 8

4. Removal of PCB-HEAD-AMP

A. Remove the top cover. (Page 1, Item 1)

B. Lift the shield cover-A upward to remove it.

C. Disconnect the FPC cable by gently pulling cover-C of the connector GB, as shown in Fig. 9.

D. Remove three screws (ⓐ~ⓒ) retaining the lead wire and the PCB-HEAD-AMP.

E. To service the solder side, remove the shield cover-B, use the extension cord (859C344040) and ground the lead wire, as removed in above para. D.

F. To service the component side, unsolder four soldering points of the shield case and remove the shield case.

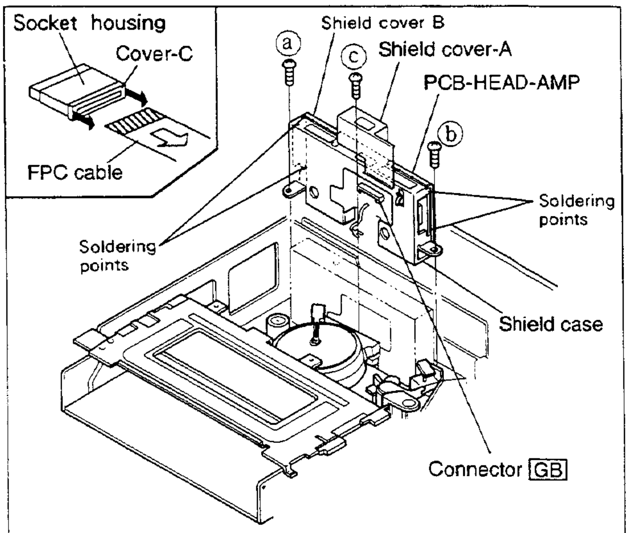

Socket housing
Cover-C
FPC cable
Shield cover B
ⓐ
ⓒ
Shield cover-A
PCB-HEAD-AMP
ⓑ
Soldering points
Soldering points
Shield case
Connector GB

Fig. 9

5. Removal of PCB-POWER and PCB-POWER-SUB

A. Remove the top cover. (Page 1, item 1)

B. Remove the three screws (ⓐ~ⓒ) retaining the PCB-POWER and two screws (ⓓ,ⓔ) retaining the heat sink as shown in Fig. 10.

C. Remove the holder of AC power cord from the VCR chassis.

D. Unfasten the three hooks (ⓕ~ⓗ) retaining the PCB-POWER-SUB as shown in Fig. 11.

CAUTION:

Power regulators are damaged if power supply is turned on without installing the heat sink.

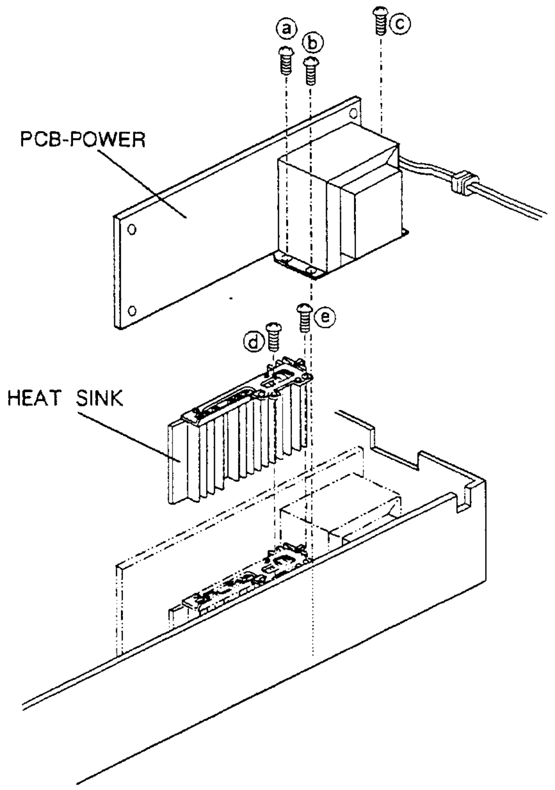


Fig. 10

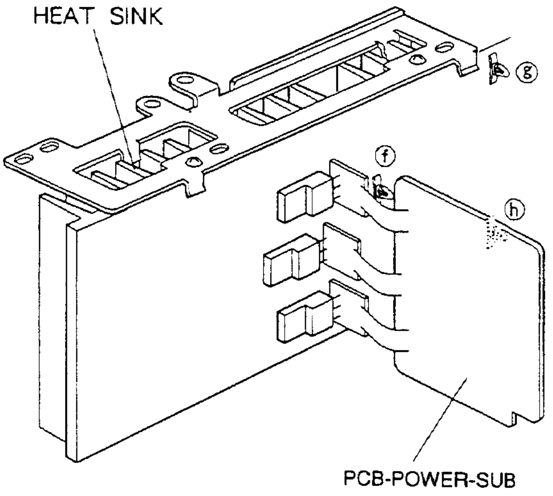
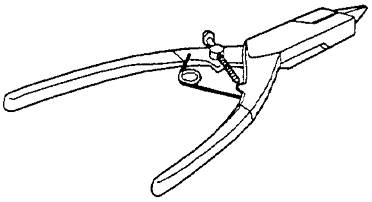
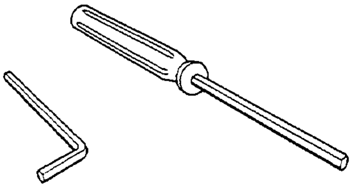
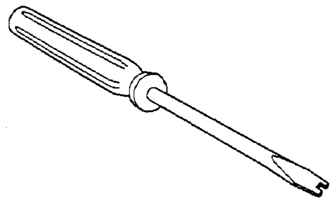
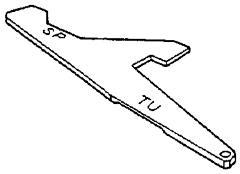
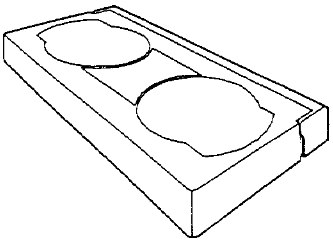
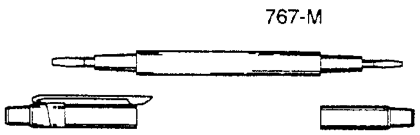
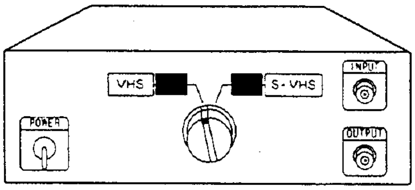
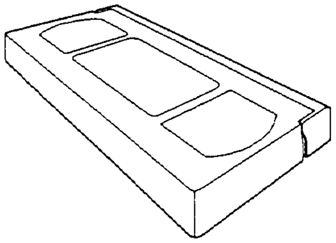
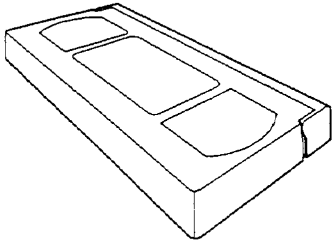


Fig. 11

MECHANICAL ADJUSTMENT TOOLS

	PURPOSE	METHOD
Grip ring fixer (859C347050) 	A tool for preventing the grip ring from opening excessively.	While opening the grip ring with the tips of this tool, install the grip ring on to the shaft.
Hex Keys(1.5mm)  **(859C259020) (859C259050)**	The hex keys are used for tightening or removing hexagonal socket head screws which fasten the guide rollers.	Insert the given size(1.5mm) hexagonal socket and turn.
Adjustment Driver (859C259080) 	For adjustment of guide rollers.	Carefully insert and adjust guide rollers.
Reel disk Adj. Jig (859C342020)  	The height gauge is used for measuring height and parpendicularity of the reel disk and Take up guide arm.	The gauge is applied to the part being measured.
BackTension Gauge (859C345080) 	The back tension gauge is used for measuring the tension of the tape on the supply side.	Load this gauge in the cassette housing and run in the play mode. Read the gauge indicator.
Extension Cord (859C344040)	For PCB-HEAD-AMP service	Use when repair of the PCB Head Amp is necessary.
Cotton gloves	For changing, cleaning and handling of drum, heads and guides.	Use when handling all parts in the tape path.

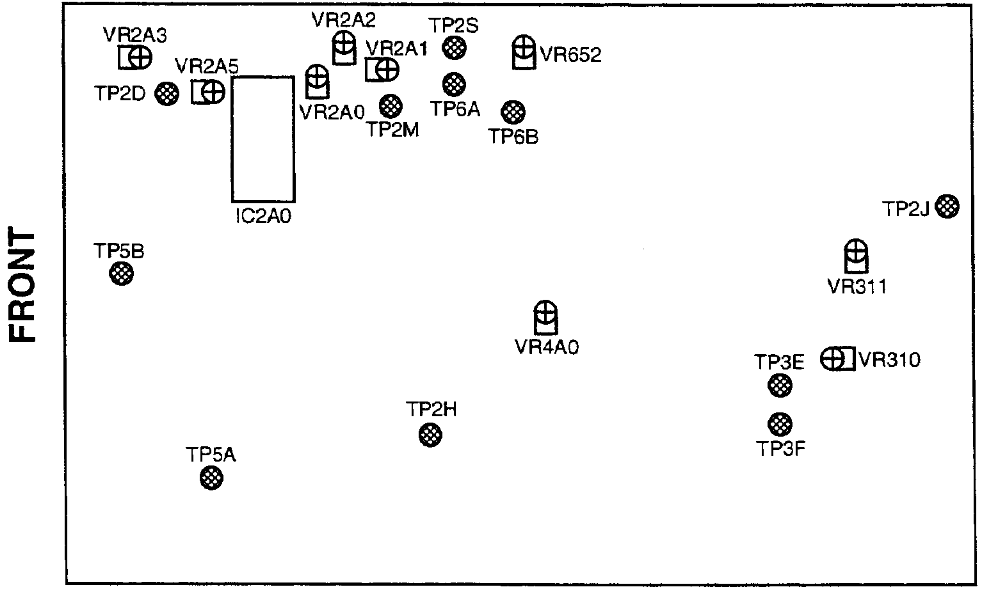
ELECTRICAL ADJUSTMENT TOOLS

	PURPOSE	METHOD
Adjustment Driver (859C338000)  	The adjustment driver is intended to adjust variable resistors, trimmers, transformers etc. in the circuitry.	Select a tip suitable for the particular head of the component concerned and adjust.
Carrier Checker (859C346050)  	Used for the adjustment or inspection of the carrier set deviation.	Use in conjunction with the oscilloscope. For detail refer to the service manual or the attached data.
Alignment Tape(PAL:859C339010) 	Standard signals(VHS Standard) are recorded on the alignment tape and reproduced when required in the adjustment of Y/C circuit, audio circuit and interchangeability alignment.	Install and run in the play mode, the same as for an ordinary tape.
Alignment Tape(Hi-Fi) (859C339030) 	For adjusting the switching point of FM audio. The Video signal can also be used for interchangeability adjustment of SP (3H)/LP (6H) modes.	Install the tape and run the recorder in the play mode. The same as for an ordinary tape.
Record Current Adjustment Jig (859C347080)	For Y/C Recording Level and Hi-Fi FM Recording Level.	For Y/C Recording Level and Hi-Fi FM Recording Level adjustment.

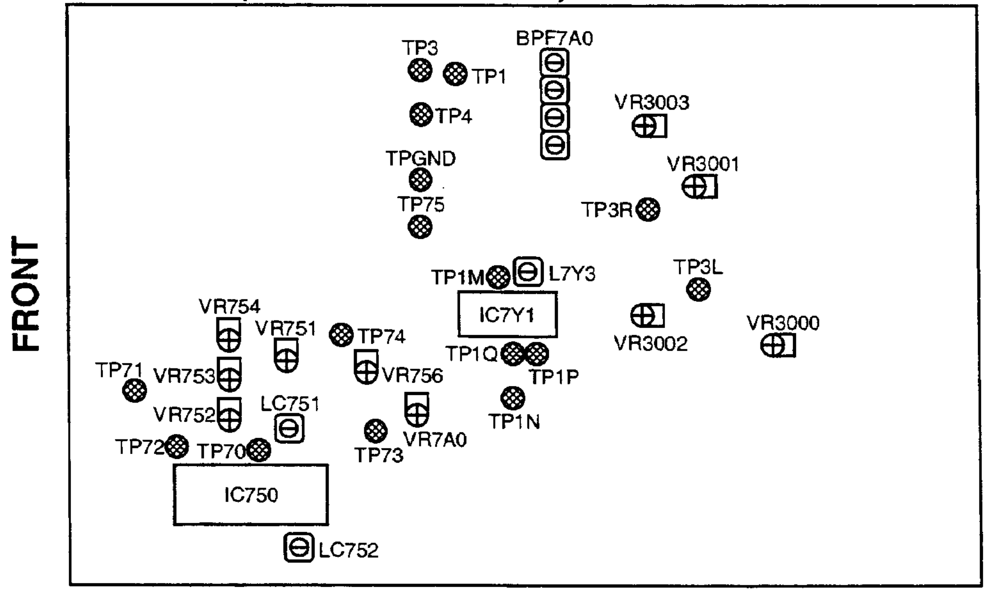
ELECTRICAL ADJUSTMENT

Circuit adjustments become necessary, in most cases, due to the wear of mechanical parts or following the replacement of critical components such as the video head, causing circuit adjustments to vary considerably. Should this occur, be sure to determine the nature of the defect and repair prior to proceeding with adjustments. Always use the test equipment recommended for a given adjustment procedure. If the appropriate test equipment is not available, it is recommended that adjustments NOT be attempted. Refrain from the indiscreet adjustment of circuit adjustment controls unless properly equipped to do so.

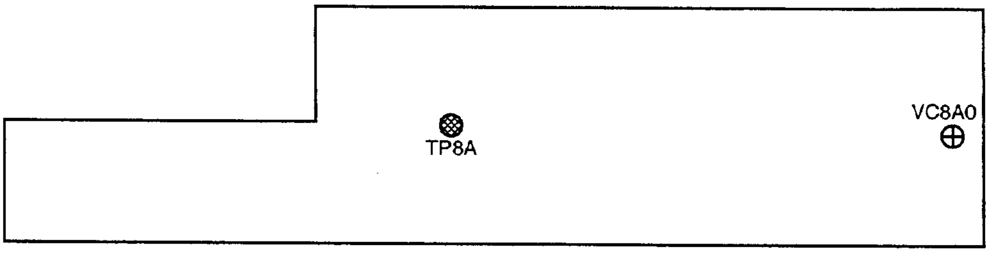
PCB-MAIN (COMPONENT SIDE)


FRONT
VR2A3
VR2A5
TP2D
VR2A2
VR2A1
TP2S
VR652
VR2A0
TP2M
TP6A
TP6B
IC2A0
TP2J
TP5B
VR311
VR4A0
TP3E
VR310
TP3F
TP2H
TP5A

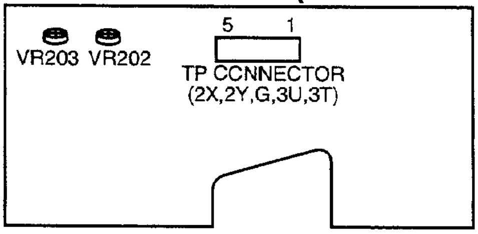
PCB-Hi-Fi (COMPONENT SIDE)


FRONT
TP3
TP1
BPF7A0
TP4
VR3003
TPGND
VR3001
TP75
TP3R
TP1M
L7Y3
TP3L
IC7Y1
VR754
VR751
TP74
VR3002
VR3000
TP1Q
TP71
VR753
VR756
TP1P
VR752
LC751
TP1N
VR7A0
TP72
TP70
TP73
IC750
LC752

PCB-TIMER (COMPONENT SIDE)



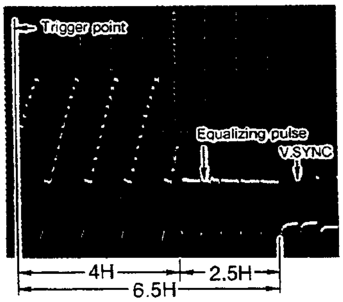
PCB-HEAD-AMP (COMPONENT SIDE)


VR203
VR202
5
1
TP CCNNECTOR
(2X,2Y,G,3U,3T)

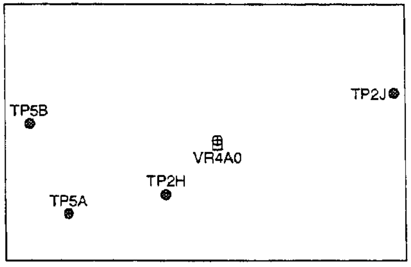
[Servo Circuit] 1.Playback Switching Point	**Adjustment purpose:** Video switch over timing during playback. **Symptom when incorrectly adjusted:** Switching noise or jitter on the playback picture.

Measuring instrument and condition		VCR set up condition	
Oscilloscope (Probe 10:1)		Input signal	-----
Test point	TP2J	Using tape	Alignment tape (Grey scale)
EXT trigger	TP2H	VCR condition	Playback
Measurement range	DIV 20mV TIM 50µs	Using Jig.	-----

1. Short-circuit TP5A and TP5B. Confirm that the "DTR" displayed in Fluorescent Display flashes fast.
2. Observe the waveform at TP2J.
3. Set the oscilloscope's slope to (–).
4. Adjust VR4A0 so that the trigger point is located at 6.5±1.0H before the vertical synchronizing signal.



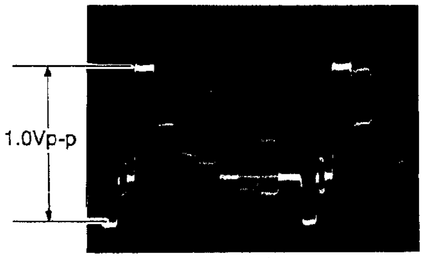
PCB-MAIN (COMPONENT SIDE)



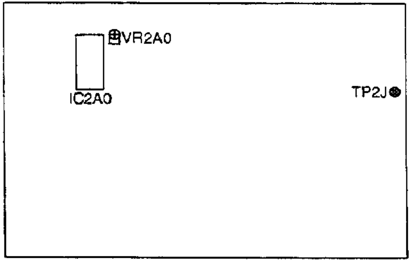
[Y/C Signal Circuit] 2.EE Output Level	**Adjustment purpose:** Output level of video signal at Stop mode. **Symptom when incorrectly adjusted:** Too bright or too dark image: colour signal is produced incorrectly.

Measuring instrument and condition		VCR set up condition	
Oscilloscope (Probe 10:1)		Input signal	RF signal (Colour bar)
Test point	TP2J	Using tape	-----
EXT trigger	-----	VCR condition	STOP
Measurement range	DIV 20mV TIM 10µs	Using Jig.	-----

1. Observe the waveform at TP2J.
2. Adjust VR2A0 so that the amplitude of waveform is 1.0Vp-p.



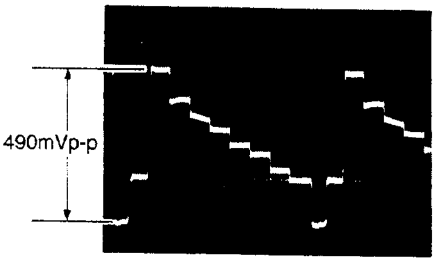
PCB-MAIN (COMPONENT SIDE)



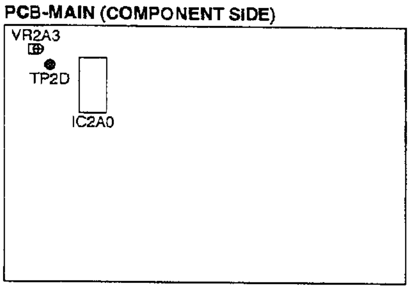
3.Clamp	**Adjustment purpose:** Set the level of video signal. **Symptom when incorrectly adjusted:** Blurred image, white streaking black streaking.

Measuring instrument and condition		VCR set up condition	
Oscilloscope (Probe 10:1)		Input signal	RF signal (colour bar)
Test point	TP2D	Using tape	-----
EXT trigger	-----	VCR condition	STOP
Measurement range	DIV 10mV TIM 10µs	Using Jig.	-----

1. Observe the waveform at TP2D.
2. Adjust VR2A3 so that amplitude of the waveform is 490mVp-p.



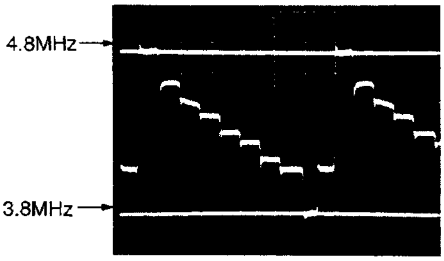
PCB-MAIN (COMPONENT SIDE)



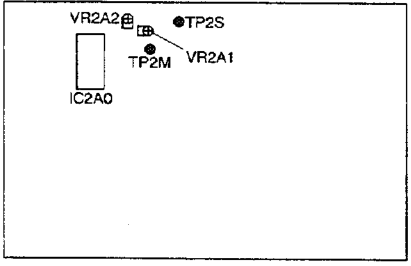
4.Carrier set, Deviation	**Adjustment purpose:** FM carrier frequency and frequency deviations. **Symptom when incorrectly adjusted:** Too bright or too dark image: colour signal is to reproduced incorrectly. Horizontal noise or out of sync.

Measuring instrument and condition		VCR set up condition	
Oscilloscope (Probe 1:1)		Input signal	RF signal (colour bar)
Test point	TP2M	Using tape	-----
EXT trigger	TP2S	VCR condition	STOP
Measurement range	DIV 0.2V TIM 10µs	Using Jig.	Carrier checker

1. Observe the waveform at TP2M via the carrier checker.
2. Adjust VR2A2 and VR2A1 so that the response waveform 3.8MHz line and 4.8MHz just touch each of white lines on the oscilloscope.



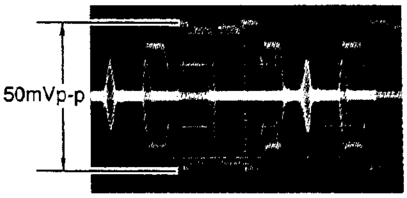
PCB-MAIN (COMPONENT SIDE)

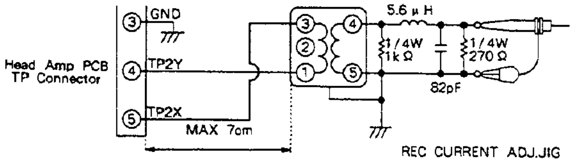


5.Y/C Recording Level	**Adjustment purpose:** Level of video signal just before recording on tape. **Symptom when incorrectly adjusted:** Low luminance signal S/N ratio, beats, colour bounding of chrominance signal or flicker.

Measuring instrument and condition		VCR set up condition	
Oscilloscope (Probe 1:1)		Input signal	RF signal (colour bar)
Test point	TP connector pin ⑤ and pin ④	Using tape	A tape
EXT trigger	TP2S	VCR condition	LP REC
Measurement range	DIV 10mV TIM 10µs	Using Jig.	REC CURRENT ADJ. JIG

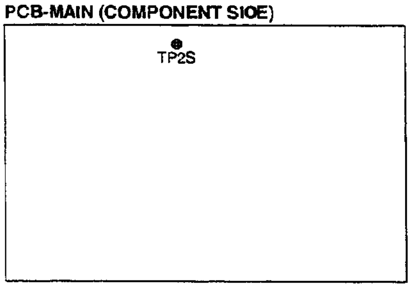
1. Observe the waveform at TP connector pin ⑤ and pin ④ via the REC CURRENT ADJ. JIG.
2. Turn VR203 fully counter clockwise as seen from top side.
3. Adjust VR202 so that the amplitude of cyan is 50mVp-p.



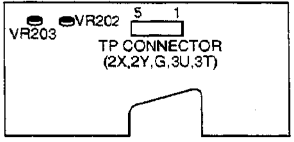

Head Amp PCB
TP Connector
③ GND
④ TP2Y
⑤ TP2X
MAX 7cm
③
②
①
④
⑤
5.6 µH
1/4W 1kΩ
1/4W 270Ω
82pF
REC CURRENT ADJ.JIG
No.859C347080

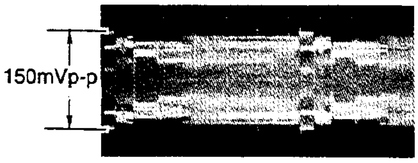
4. Set the oscilloscope's probe to 10:1.
5. Set the oscilloscope's volt range to 5mV/div.
6. Adjust VR203 so that the amplitude of horizontal sync is 150mVp-p.

PCB-MAIN (COMPONENT SIDE)



PCB HEAD-AMP (COMPONENT SIDE)

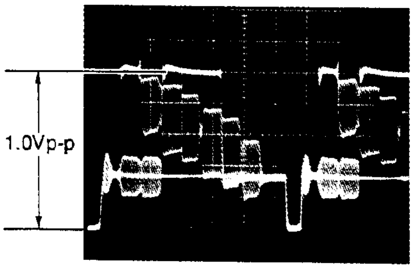

VR203
VR202
5
1
TP CONNECTOR
(2X,2Y,G,3U,3T)



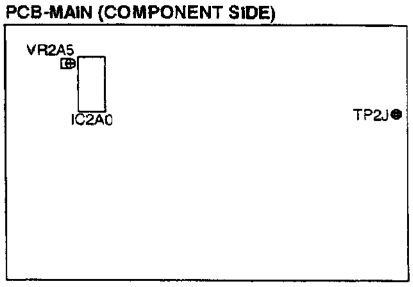
6. Playback Video Output Level	**Adjustment purpose:** Video output level during playback. **Symptom when incorrectly adjusted:** Colour signal is not correctly reproduced.

Measuring instrument and condition		VCR set up condition	
Oscilloscope (Probe 10:1)		Input signal	-----
Test point	TP2J	Using tape	Alignment tape (Colour bar)
EXT trigger	-----	VCR condition	Playback
Measurement range	DIV 20mV TIM 10µs	Using Jig.	-----

1. Set INTELLIGENT PICTURE switch to "OFF" position.
2. Open the VIDEO OUT terminal.
3. Observe the waveform at TP2J.
4. Adjust VR2A5 so that the amplitude of waveform is 1.0Vp-p.



PCB-MAIN (COMPONENT SIDE)

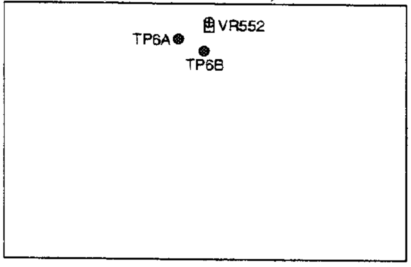

VR2A5
IC2A0
TP2J

7.N-PAL VCO (HS-M57(IR) only)	**Adjustment purpose:** Frequency setting of gate of pulse for sampling the burst signal in order to ccnvert NTSC signal to a guest-PAL signal. **Symptom when incorrectly adjusted:** No colour signal during N-PAL Playback.

Measuring instrument and condition		VCR set up condition	
Frequency counter		Input signal	-----
Test point	TP6B	Using tape	Alignment tape (NTSC colour bar)
EXT trigger	-----	VCR condition	Playback
Measurement range	-----	Using Jig.	-----

1. Supply DC5V to TP6A.
2. Observe the freguency at TP6B.
3. Adjust VR652 so that the frequency is 15.73kHz ± 50Hz.
4. Open TP6A.

PCB-MAIN (COMPONENT SIDE)

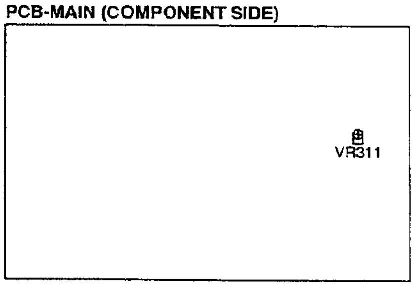


[Audio Circuit] 8.Playback Audio Level	**Adjustment purpose:** Audio level during playback. **Symptom when incorrectly adjusted:** Too loud or too low audio level during playback.

Measuring instrument and condition		VCR set up condition	
Audio tester		Input signal	-----
Test point	AUDIO OUT terminal	Using tape	Alignment tape (1kHz audio signal)
EXT trigger	----	VCR condition	Playback
Measurement range	----	Using Jig.	-----

1. Observe the audio level at AUDIO OUT terminal.
2. Adjust VR311 so that the audio output level is –6dBs (388mVr.m.s.). (0dBs=1mW 600Ω:0.775Vr.m.s.)
3. Check that the level fluctuation is less than ±1dBs. If level fluctuation is over ± 1dBs then check that the mechanical adjustment of A/C HEAD slant adjustment.

PCB-MAIN (COMPONENT SIDE)



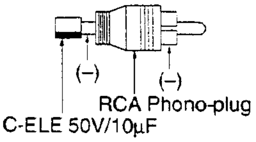
9.Audio Bias Level	**Adjustment purpose:** Audio bias level during recording. **Symptom when incorrectly adjusted:** Poor audio response in high frequency area or distortion.

Measuring instrument and condition		VCR set up condition	
Audio tester		Input signal	-----
Test point	TP3E TP3F	Using tape	A tape
EXT trigger	-----	VCR condition	SP REC
Measurement range	-----	Using Jig.	High pass filter

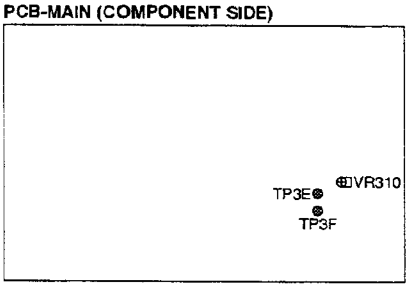
1. Insert shorted RCA type phono-plug into the AUDIO IN terminal.
2. Observe the signal level at TP3E and TP3F.
3. Confirm that the monitor TV etc. dose not affect the indication of the audio tester and then adjust VR310 so that the level of 2.6mVr.m.s.

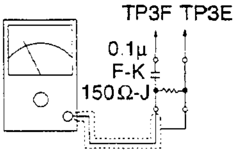
Note 1:
Be careful that the audio tester housing dces not touch the VCR chassis.

Note 2:
Do not set the VCR to PLAY mode with the audio tester connected.
(The audio amplifier will be overloaded.)



PCB-MAIN (COMPONENT SIDE)



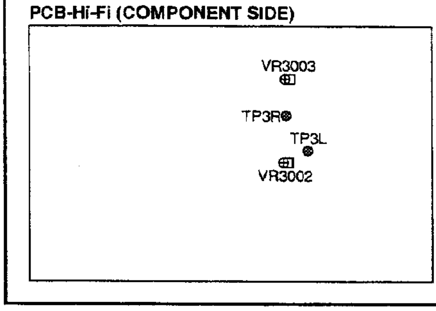


[Hi-Fi Audio Circuit] 10.VCO	**Adjustment purpose:** Set up of FM carrier frequency for Hi-Fi audio. **Symptom when incorrectly adjusted:** Buzz only.

Measuring instrument and condition		VCR set up condition	
Frequency counter		Input signal	-----
Test point	TP3L TP3R	Using tape	A tape
EXT trigger	-----	VCR condition	SP REC
Measurement range	-----	Using Jig.	-----

1. Set CHANNEL button to "EXT" position.
2. Set MONITOR button on the remote hand unit to "STEREO" mode.
3. Connect AUDIO IN terminal to grcund(L-CH and R-CH).
4. Observe the frequency at TP3L.
5. Adjust VR3002 so that the frequency is 1.400MHz ± 3kHz.
6. Observe the frequency at TP3R.
7. Adjust VR3003 so that the frequency is 1.800MHz ± 3kHz.

PCB-Hi-Fi (COMPONENT SIDE)

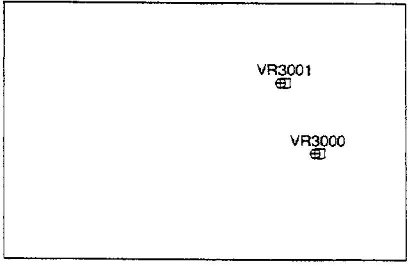


11. FM Frequency Deviation	**Adjustment purpose:** FM Frequency deviation of Hi-Fi sound. **Symptom when incorrectly adjusted:** Too high or too low recording and playback levels of Hi-Fi sound.

Measuring instrument and condition		VCR set up condition	
Audio tester		Input signal	-----
Test point	AUDIO OUT terminal (L-CH or R-CH)	Using tape	Aligment tape (PM6KH3)
EXT trigger	-----	VCR condition	playback
Measurement range	-----	Using Jig.	-----

1. Set CHANNEL button to "EXT" position.
2. Set MONITOR button on the remote hand unit to "STEREO" mode.
3. Observe the audio level at AUDIO OUT terminal (L-CH or R-CH).
4. Ajust VR3000 for the L-CH and VR3001 for the R-CH so that output levels of AUDIO OUT terminals are –6dBm.

PCB-Hi-Fi (COMPONENT SIDE)

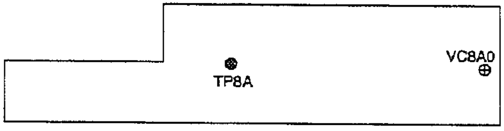


[Timer Circuit] 12. Clock OSC Frequency	**Adjustment purpose:** Accuracy of clock. **Symptom when incorrectly adjusted:** Poor clock accuracy.

Measuring instrument and condition		VCR set up condition	
Frequency counter		Input signal	-----
Test point	TP8A	Using tape	-----
EXT trigger	-----	VCR condition	Stand by
Measurement range	PERIOD mode	Using Jig.	-----

1. Observe the period at TP8A.
2. Adjust VC8A0 sc that the period is 5.859375 ±0.000024msec.

PCB TIMER (COMPONENT SIDE)

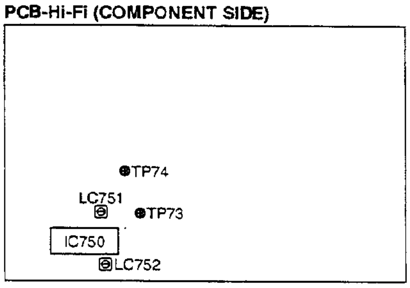


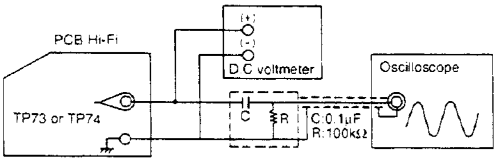
[Dual Audio Circuit] 13. Audio DET Coil (HS-M57 (Y) only)	**Adjustment purpose:** Adjustment for audio det coils. **Symptom when incorrectly adjusted:** Sound Signal will distort.

Measuring instrument and condition		VCR set up condition	
D.C. Voltmeter		Input signal	RF Signal (Normal Sound Signal)
Test point	TP73	Using tape	-----
EXT trigger	-----	VCR condition	STOP
Measurement range	-----	Using Jig.	-----

1. This VCR should be in the power on mode for at least 3 minutes before attempting this adjustment.
2. Supply the normal mode RF signal (400Hz, 30%FM Modulation, 15kHz Deviation).
3. Adjust LC752 so that the D.C voltage at TP73 is 6V.
4. Supply the dual mode RF signal (SUB-CH should be 1kHz).
5. Adjust LC751 so that the D.C voltage at TP74 is 6V.

PCB-Hi-Fi (COMPONENT SIDE)



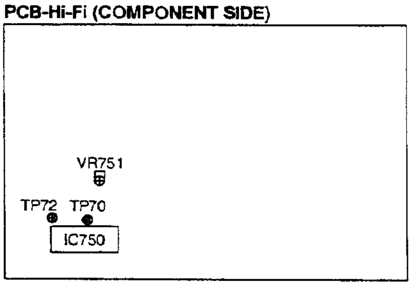


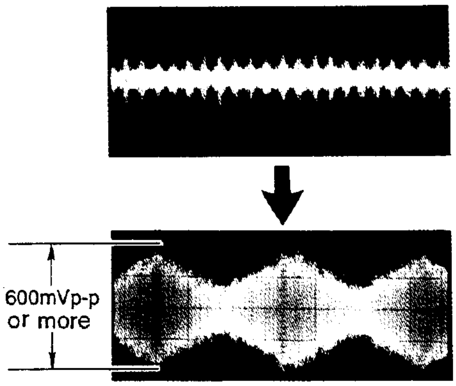
14. Pilot Signal Tuning Frequency (HS-M57 (Y) only)	**Adjustment purpose:** The level of pilot signal. **Symptom when incorrectly adjusted:** The pilot signal fails to be detected.

Measuring instrument and condition		VCR set up condition	
Oscilloscope (10:1)		Input signal	RF Signal (Stereo Sound Signal)
Test point	TP70	Using tape	-----
EXT trigger	TP72	VCR condition	STOP
Measurement range	DIV 20mV TIM 1ms	Using Jig.	-----

1. Supply the stereo mode RF signal.
2. Observe the waveform at TP70.
3. Adjust VR751 so that the amplitude of the pilot signal becomes maximum.
4. Make sure that the amplitude is at least 600mVp-p.

PCB-Hi-Fi (COMPONENT SIDE)





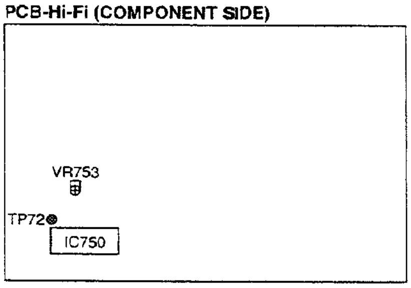
15. Pilot Tone BPF Tuning Frequency of Dual Audio Mode (HS-M57 (Y) only)	**Adjustment purpose:** For the detection of dual mode. **Symptom when incorrectly adjusted:** Dual audio fail to be detected.

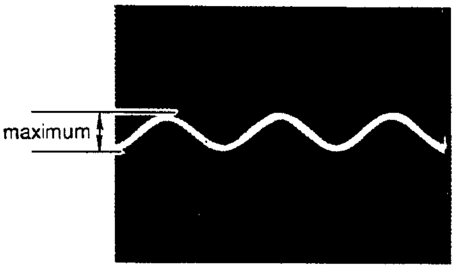
Measuring instrument and condition		VCR set up condition	
Oscilloscope (10:1)		Input signal	RF Signal (Dual Sound Signal)
Test point	TP72	Using tape	-----
EXT trigger	-----	VCR condition	STOP
Measurement range	DIV 20mV TIM 1ms	Using Jig.	-----

This adjustment must be done after ITEM 14.

1. Supply the dual mode RF signal.
2. Observe the waveform at TP72.
3. Adjust VR753 so that the amplitude of the pilot tone(274.1Hz) of dual mode becomes maximum.

PCB-Hi-Fi (COMPONENT SIDE)





16. Pilot Tone BPF Tuning Frequency of Stereo mode (HS-M57 (Y) only)	**Adjustment purpose:**For the detection of Stereo mode. **Symptom when incorrectly adjusted:**Stereo audio fail to be detected.

Measuring instrument and condition		VCR set up condition	
Oscilloscope (10:1)		Input signal	RF Signal (Stereo Sound Signal)
Test point	TP72	Using tape	-----
EXT trigger	-----	VCR condition	STOP
Measurement range	DIV 20mV TIM 2ms	Using Jig.	-----

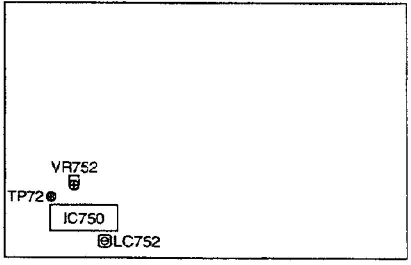
This adjustment must be done after ITEM 14.

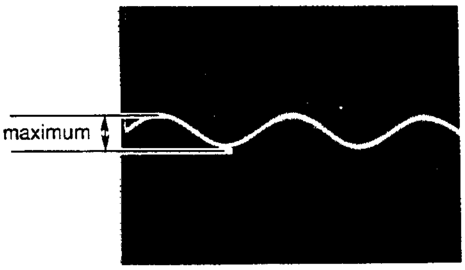
1. Supply the stereo mode RF signal.

PILOT	50% AM MODURATION
RIGHT CH	1kHz, 100% FM MODURATION
LEFT CH	NO MODURATION
RF INPUT	70dBμ (75Ω LOAD)

2. Observe the waveform at TP72.
3. Adjust VR752 so that the amplitude of the pilot tone(117.5Hz) becomes maximum.

PCB-Hi-Pi (COMPONENT SIDE)



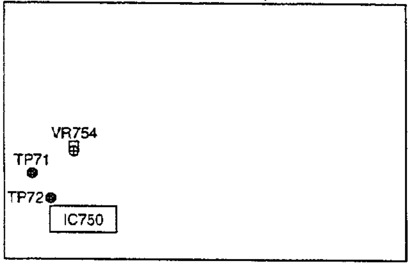


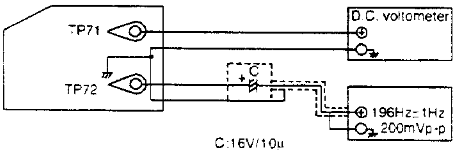
17. VCO Frequency (HS-M57 (Y) only)	**Adjustment purpose:** The frequency of VCO. **Symptom when incorrectly adjusted:** Multi signal fail to be detected.

Measuring instrument and condition		VCR set up condition	
Audio Tester, D.C Volt meter		Input signal	RF Signal (Dual Sound Signal)
Test point	TP71	Using tape	-----
EXT trigger	-----	VCR condition	STOP
Measurement range	-----	Using Jig.	-----

1. Supply the dual mode RF signal.
2. Supply sinewave(196Hz, 200mVp-p) to TP72 via a capacitor.
3. Observe the voltage at TP71.
4. Adjust VR754 so that the D.C voltage at TP71 is 6.1V.

PCB-Hi-Fi (COMPONENT SIDE)





18. Channel Separation (HS-M57 (Y) only)	**Adjustment purpose:** Positioning of audio separation. **Symptom when incorrectly adjusted:** Mixing audic separation.

Measuring instrument and condition		VCR set up condition	
Oscilloscope (10:1)		Input signal	RF Signal (Stereo Sound Signal)
Test point	TP75	Using tape	-----
EXT trigger	-----	VCR condition	STOP
Measurement range	DIV 20mV TIM 2ms	Using Jig.	-----

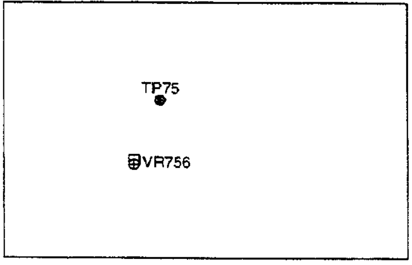
1. Supply the stereo mode RF signal.

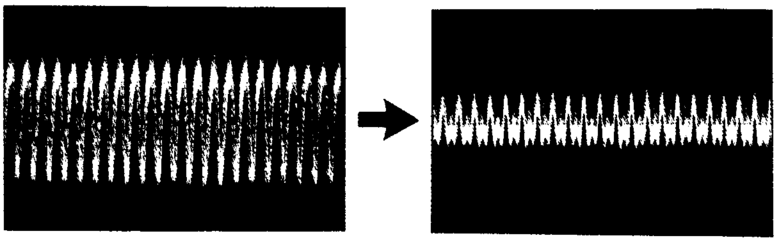
PILOT	50% AM MODURATION
RIGHT CH	1kHz, 100% FM MODURATION
LEFT CH	NO MODURATION
RF INPUT	70dBμ (75Ω LOAD)

2. Observe the waveform at TP75.
3. Adjust VR756 so that the audio out put signal at L-CH becomes minimum.

Attention:
This adjustment should be done precisely because it determines the separation.

PCB-Hi-Fi (COMPONENT SIDE)





[NICAM Circuit]
19. QUASI-SIF
(HS-M57 (E), (B), (IR) only)

Adjustment purpose: Coincide the free run frequency of the NICAM detector to VIF.

Symptom when incorrectly adjusted: It can not detect NICAM.

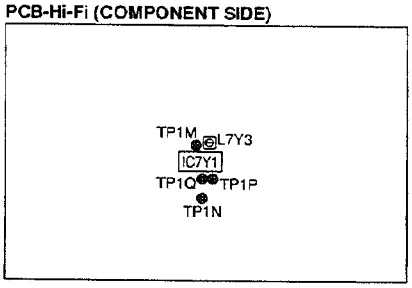
Measuring instrument and condition		VCR set up condition	
D.C. Voltmeter		Input signal	-----
Test point	TP1M	Using tape	-----
EXT trigger	-----	VCR condition	STOP
Measurement range	-----	Using Jig.	-----

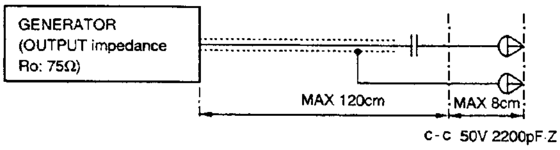
1. Short the AGC terminal of the Tuner to ground.
2. Supply 12V to the BT terminal of Tuner.
3. Short-circuit TP1N and ground.
4. Take the DC voltage of TP1M.
5. Open-circuit TP1N and ground.
6. Short-circuit TP1P and ground via the capacitor (50V, 2200pF).
7. Supply the signal (as shown in Table) to TP1Q via the pad (as shown in figure).
8. Adjust L7Y3 so that the DC voltage of TP1M become the same voltage in step 4.

Table

MODEL	Input signal
HS-M57(E)	38.9MHz, 99dBμV
HS-M57(B), (IR)	39.5MHz, 99dBμV

PCB-Hi-Fi (COMPONENT SIDE)





20. Additional Adjustment of Carrier VCXO
(HS-M57 (E), (B), (IR) only)

Adjustment purpose: Reference frequency for detecting 2nd SIF.

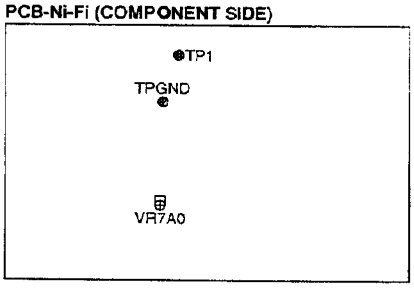
Symptom when incorrectly adjusted: NICAM fails to be detected.

Measuring instrument and condition		VCR set up condition	
Frequency counter		Input signal	RF Signal (Stereo mode)
Test point	TP1	Using tape	-----
EXT trigger	-----	VCR condition	STOP
Measurement range	-----	Using Jig.	-----

1. Observe the Frequency at TP1.
2. Connect TPGND to ground.
3. Adjust VR7A0 so that the frequency at TP1 is a value listed in the table below.

MODEL	Carrier frequency
HS-M57(E)	5.65MHz±300Hz
HS-M57(B), (IR)	6.652MHz±300Hz

PCB-Ni-Fi (COMPONENT SIDE)



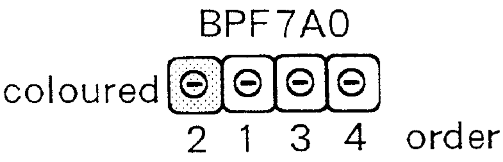
21. BPF (HS-M57 (E), (B), (IR) only)	**Adjustment purpose:** Set up the characteristic of BPF of NICAM. **Symptom when incorrectly adjusted:** AUDIO S/N ratio during receiving NICAM become worse.

Measuring instrument and condition		VCR set up condition	
Oscilloscope (Probe 10:1)		Input signal	RF signal (STEREO sound signal)
Test point	TP3	Using tape	-----
EXT trigger	TP4	VCR condition	STOP
Measurement range	DIV 20mV TIM 1 µs	Using Jig.	-----

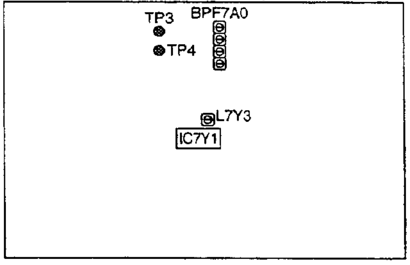
1. Set MONITOR button on the remote hand unit to "STEREO" mode.
2. Observe the waveform at TP3.
3. Adjust BPF7A0 so that the amplitude of part A becomes maximum.

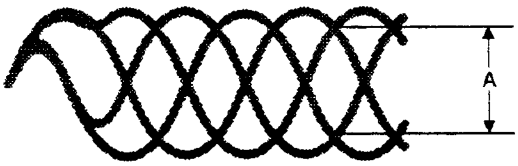
Note:

Perform the coil adjustment in order with refer to following figure adjust repeatedly at least twice.

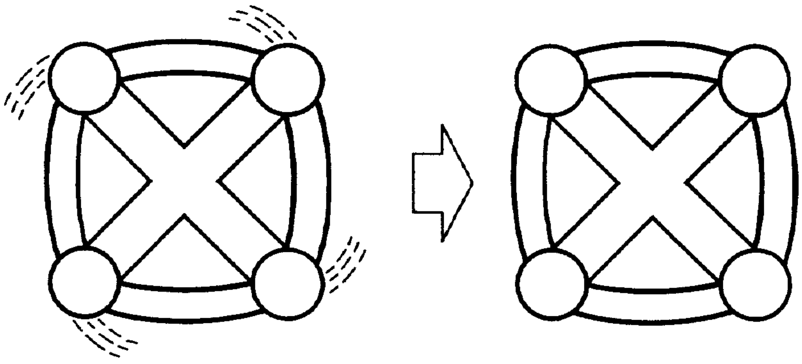


PCB-Hi-Fi (COMPONENT SIDE)





4. Observe the waveform at TP3 and TP4.
5. Set the oscilloscope to X-Y mode.
6. Adjust L7Y3 so that the noise level is disappeared.



MECHANICAL ADJUSTMENT AND REPLACEMENT

1. Cleaning of Deck

The following parts require cleaning whenever serviced to maintain satisfactory performance.

1-1 Video Head

A. Clean the video heads in the following method if dust and other foreign objects on the video heads disturb the normal playback of images:
   Dampen video head cleaning cloth with alcohol. Hold the cloth against the drum and turn the drum slowly counterclockwise to clean.
   Note:
   Do not directly touch the head attached to the upper drum. The head is very hard but brittle to impact, especially in the vertical direction.
   Do not apply force in the vertical direction.

B. Allow residual alcohol to dry thoroughly before running tape. Otherwise, the liquid may stick to and damage the tape.

1-2 Tape Transport(Refer to Fig. 1-1.)

Clean the following parts of the tape transport.

1. Tension regulation arm S
2. Tension arm
3. Supply guide pole
4. FE head
5. Impedance roller
6. Supply guide roller
7. Supply slant pole
8. Upper and lower drum
9. Takeup slant pole
10. Takeup guide roller
11. A/C head
12. Takeup guide pole
13. Pinch roller
14. Capstan shaft
15. Takeup guide arm
16. Tension regulation arm T

A. Clean the tape transport with gauze dampened with alcohol, except the supply guide roller, takeup guide roller and pinch roller. If Guide rollers and pinch roller are stained with dust, clean them with dry gauze or exchange them for new parts.

B. Allow residual alcohol to dry thoroughly before running a tape. Otherwise the liquid may stick to and damage the tape.

1-3 Reel Disk Drive System

Clean the reel disk braking surfaces and the reel belt.

A. Clean the reel disk braking surfaces with gauze dampened alcohol.
   - After the alcohol dries up completely, perform "Adjustment to Back Tension and Tension Position" (Item 3-1).

B. Reel belt is stained with dust, clean it with dry gauze or exchange it for new part.

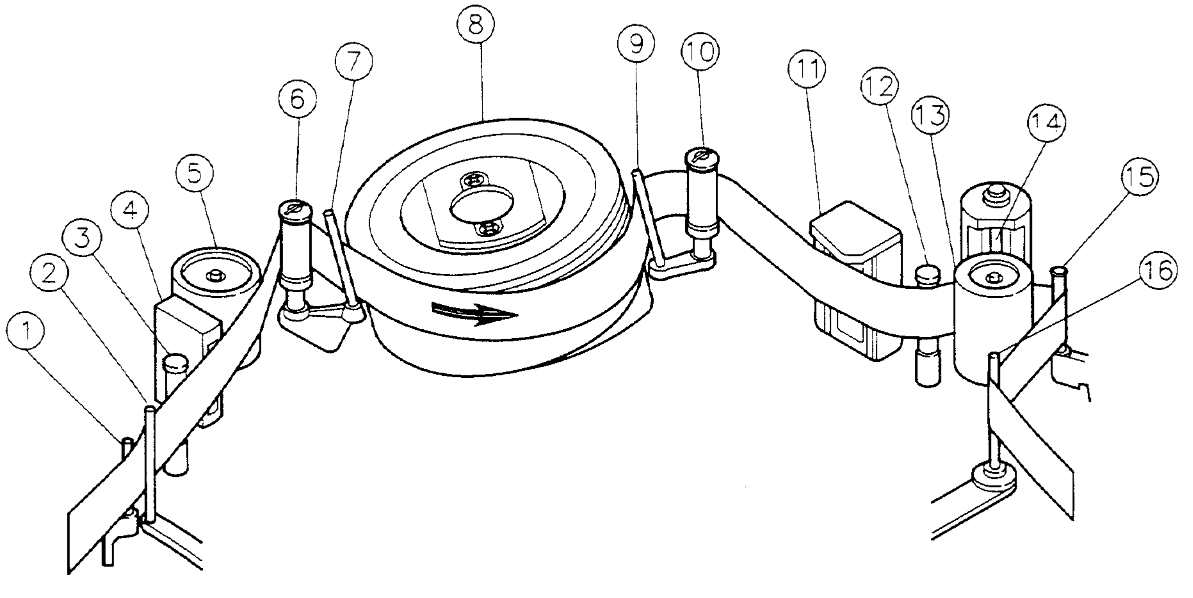


Fig. 1-1

F0D001

2. Replacement of Major Parts

2-1 Cassette Housing

2-1-1 Removal(Refer to Fig. 2-1-1~2-1-2.)

A. Set the VCR to the eject mode.

B. Remove the top panel, bottom panel, and front panel.

C. Unfasten the snap of the cable holder and remove the cable holder from the cassette housing as shown in Fig.2-1-1.

D. Unscrew four cassette housing fastening screws (ⓐ ~ ⓓ). Raise the cassette housing slowly in the direction shown by the arrow.(Refer to Fig. 2-1-2.)

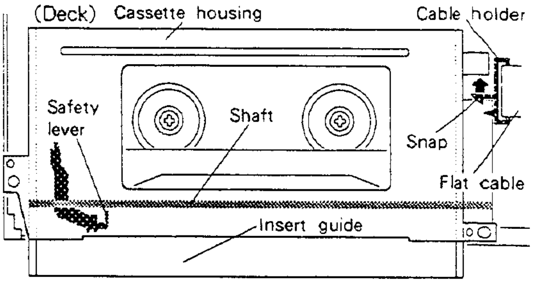

(Deck)
Cassette housing
Cable holder
Safety lever
Shaft
Snap
Flat cable
Insert guide

Fig. 2-1-1

2-1-2 Installation(Refer to Fig.2-1-1~2-1-3.)

A. Slowly lower the cassette housing onto the main plate of the deck so that the safety lever enters between the insert guide and the shaft as shown in Fig. 2-1-1. Align the two positioning holes(ⓔ , ⓕ) and the two U holes (ⓖ , ⓗ) located on the cassette housing with the matching holes in the deck.

B. In step A above, if the front loading gear of the cassette housing does NOT engage the boss on the main plate, carefully push the gear toward the front of the VCR using a small-diameter screwdriver, as illustrated in Fig. 2-1-3. If the gear still will not engage, rotate the Front Loading Gear a few degrees from below the deck until the gear engages the boss correctly.

C. Fasten the housing to the deck with the four screws(ⓐ ~ ⓓ).(Refer to Fig. 2-1-2.)

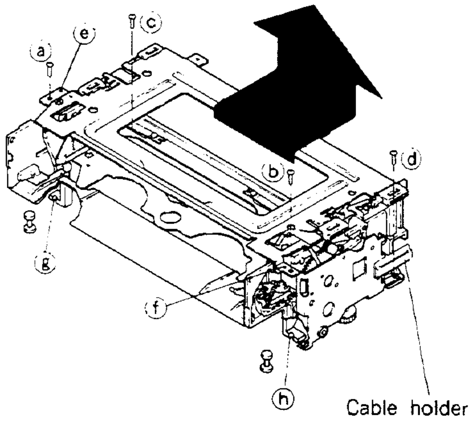

ⓔ
ⓒ
ⓐ
ⓑ
ⓓ
ⓖ
ⓕ
ⓗ
Cable holder

Fig. 2-1-2

FOD002

2-2 Lock arm and Drive gear

2-2-1 Removal(Refer to Fig. 2-1-3~2-2.)

A. Unfasten four snaps(ⓐ ~ ⓓ)as shown in Fig. 2-1-3, and remove the side plate TU.

B. Turn the FL SW lever clockwise to separate the FL SW lever from the drive gear, and pull the lock arm and drive gear to remove them from the shaft as shown in Fig. 2-2.

2-2-2 Installation(Refer to Fig. 2-1-3~2-2.)

A. Install the drive gear on the shaft as shown in Fig. 2-2.

B. Line the matching mark on the drive gear and beginning of gear section on the lock arm as shown in Fig. 2-2, and install the lock arm.

C. Install the side plate TU to the cassette housing, and secure it with four snaps(ⓐ ~ ⓓ)as shown in Fig. 2-1-3.

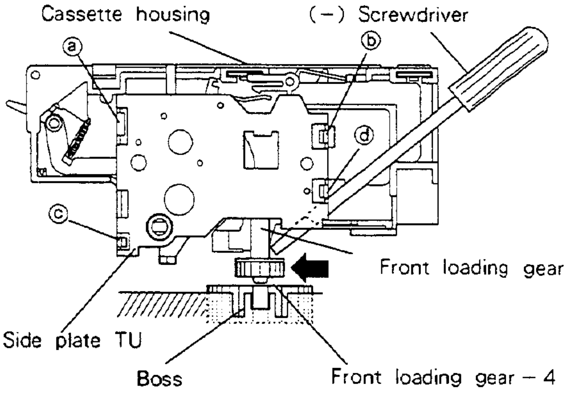

Cassette housing
(−) Screwdriver
ⓐ
ⓑ
ⓓ
ⓒ
Front loading gear
Side plate TU
Boss
Front loading gear − 4

Fig. 2-1-3

FOD003

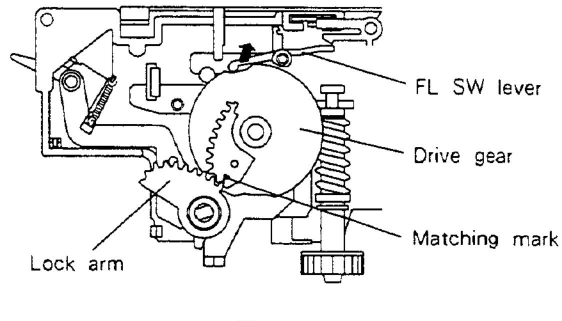

FL SW lever
Drive gear
Matching mark
Lock arm

Fig. 2-2

2-3 Drum Assembly

2-3-1 Removal(Refer to Fig. 2-3-1~2-3-3.)

A. Unscrew the brush fastening screw and remove the brush.(Refer to Fig. 2-3-1.)

B. Unscrew two fastening screws(ⓐ , ⓑ) and remove the PCB-HEAD AMP which is connected to the drum assembly.

Note:

The cable and connector between the drum and head amplifier may be damaged if the cable is pulled strongly, as the cable is short.

Remove the shield cap of the PCB, raise the PCB slightly and disconnect the FPC cable.

(Removal method for the FPC cable connector and stopper is shown in Fig. 2-3-3.)

Disconnect the ground wire and remove the PCB-HEAD AMP.

C. Unscrew three drum fastening screws(ⓒ ~ ⓔ)from the reverse side of the deck.(Refer to Fig. 2-3-2.)

D. Remove the drum assembly by raising it with care not to touch other parts around the drum assembly.

E. Disconnect the connectors from the drum assembly. (Refer to Fig. 2-3-3.)

2-3-2 Installation (Refer to Fig. 2-3-1,2-3-2.)

A. Connect the connectors to a new drum assembly.

B. Place the new drum assembly on the main plate of the deck slowly with care not to touch other parts.

C. Fasten the drum assembly with three fastening screws(ⓒ ~ ⓔ)on the reverse side of the deck. (Refer to Fig. 2-3-2.)

D. Connect the PCB-HEAD AMP to the drum assembly and fasten the PCB with two screws(ⓐ , ⓑ).(Refer to Fig. 2-3-1.)

Note:

Conduct the mechanism interchangeability adjustment outlined in Para.3 to give cptimum performance when the drum assembly is replaced.

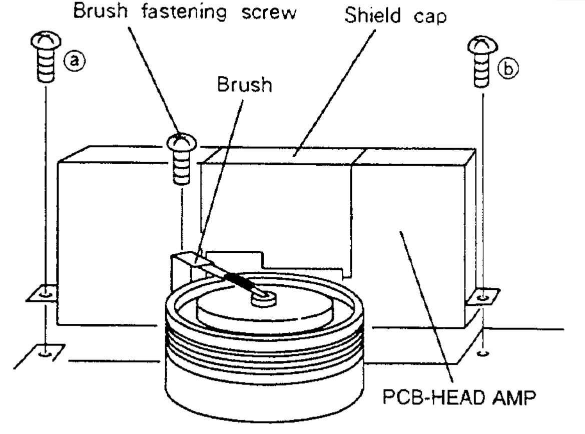


Fig. 2-3-1 F0D007

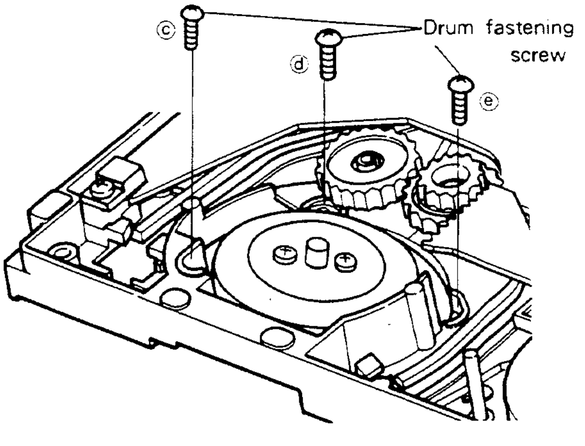


Fig. 2-3-2 F0D008

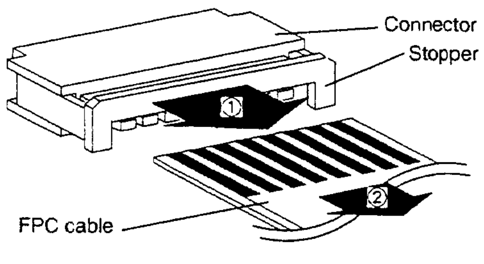


Fig. 2-3-3 F0D009

2-4 Upper Drum

2-4-1 Removal(Refer to Fig. 2-4-1.)

A. Unscrew the brush fastening screw and remove the brush.

B. Unsolder two inside soldered terminals of each head on the upper drum.

C. Unscrew the upper drum fastening screws.

D. Remove the upper drum slowly and carefully.

Note:

If the upper drum is difficult to remove, heat the upper drum fastening screw holes with a soldering iron, and the drum can be easily removed.

2-4-2 Installation(Refer to Fig. 2-4-1.)

Note:

Handle the upper drum carefully as the video heads are fragile.

A. Position the lower drum so that the hole in the shaft faces the operator. Align the upper drum with the lower drum so that the CH1 mark on the upper drum is on the right side, and couple the drums.

B. Fasten the upper drum with two screws.(Tighten the screws alternately.)

C. Solder the terminals not soldered on the upper drum.

D. Clean the video heads as outlined in Para. 1-1.

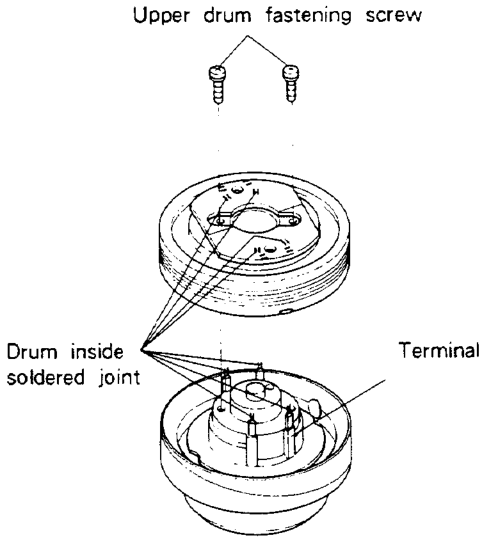


Fig. 2-4-1 F0D010

2-5 Reel Belt(Refer to Fig. 2-5)

A. Remove the reel belt from the capstan motor and the belt pulley.

B. Install a new reel belt.

Note:

Make certain that the new belt is free from grease, before installing.

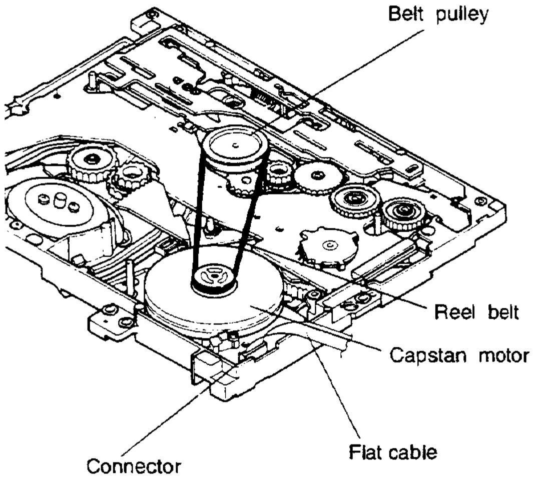


Fig. 2-5 F0D011

2-6 Capstan Motor

2-6-1 Removal(Refer to Fig. 2-5, 2-6)

A. Disconnect the flat cable.

B. Remove the reel belt.(Refer to Fig. 2-5.)

C. Remove three fastening screws shown in Fig. 2-6 and remove the capstan motor.

CAUTION:

Restrain the capstan motor as the three screws are removed, since an un-restrained motor may damage other parts of the deck.

When performing removal or installation of the capstan motor, take care that the outside of the rotor's rim is not greased.(Refer to Fig.2-5.) If greasy components are attached on the outside of the rotor's rim, wipe them off with a dry cloth because they may cause defects during special effects playback.

2-6-2 Installation(Refer to Fig. 2-5, 2-6.)

A. Fasten the motor with three fastening screws.(Refer to Fig. 2-6.)

B. Install the reel belt.

C. Connect the flat cable.

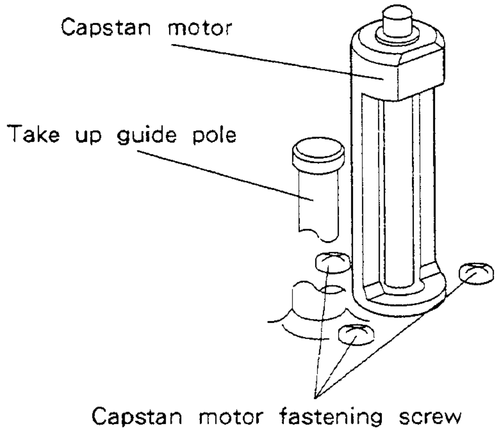


Fig. 2-6 F0D012

2-7 Loading Motor

2-7-1 Removal(Refer to Fig. 2-7-1, 2-7-2.)

A. Set the VCR to the eject mode.

B. Disconnect the wires from the loading motor.

C. Remove two stoppers securing the motor and the motor holder plate.(Refer to Fig. 2-7-2.)

D. Slide the motor and motor holder plate away, and then raise them to remove.

E. Remove the belt-LM from the loading motor and the pulley-L.(TYPE-B only)(Refer to Fig. 2-7-1.)

F. Unscrew two screws and detach the motor holder plate from the motor.

G. Disconnect the coupling from the motor.

2-7-2 Installation(Refer to Fig. 2-7-1~2-7-3.)

A. Fasten the coupling to a new loading motor.(Refer to Fig. 2-7-3.)

B. Fasten the motor holder plate to the motor with two screws.(Refer to Fig. 2-7-1.)

C. Install the belt-LM.(TYPE-B only)

D. Place the motor and motor holder plate in the motor holder to the rest of the deck.

E. Turn the motor shaft so that the coupling on the loading motors matches the worm gear of the motor holder. Slide the loading motor forward and secure it with the stoppers.

F. Solder the leads to the loading motor. (Brown lead wire to the positive terminal and red lead wire to the negative terminal.)

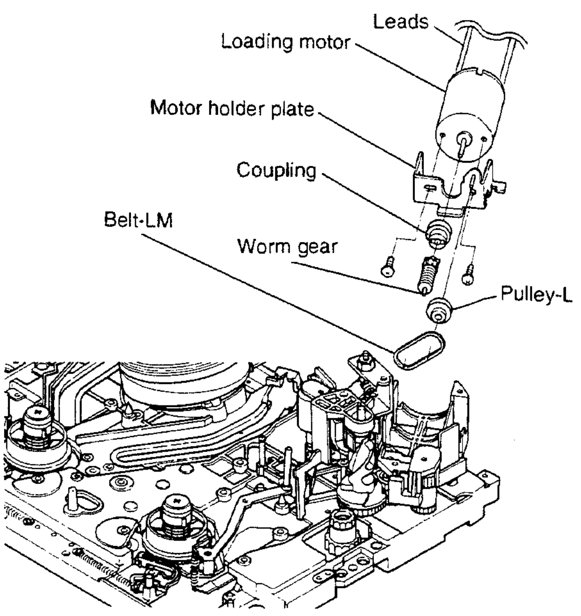

Leads
Loading motor
Motor holder plate
Coupling
Belt-LM
Worm gear
Pulley-L

Fig. 2-7-1

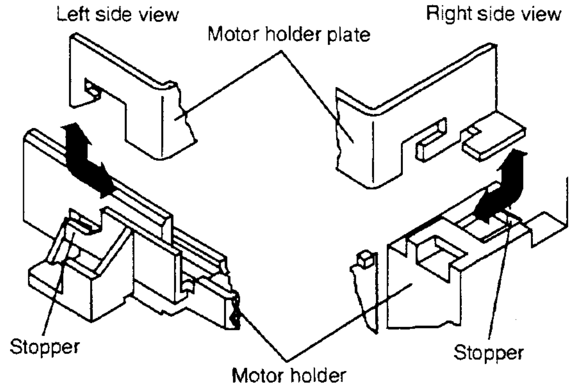

Left side view
Motor holder plate
Right side view
Stopper
Motor holder
Stopper

Fig. 2-7-2

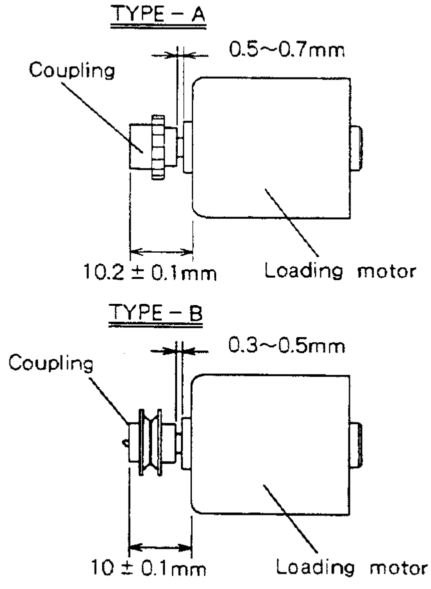

TYPE – A
Coupling
0.5~0.7mm
10.2 ± 0.1mm
Loading motor
TYPE – B
Coupling
0.3~0.5mm
10 ± 0.1mm
Loading motor

Fig. 2-7-3

2-8 Pinch Roller

2-8-1 Removal(Refer to Fig. 2-8-1, 2-8-2.)

A. Set the VCR to the eject mode.

B. Remove the pinch roller arm cap and the grip ring which secures the pinch roller arm assembly.(Refer to Fig. 2-8-1.)

C. Pull the pinch roller arm assembly upwards to remove.

D. Remove the pinch roller cap from the pinch roller arm, and remove the pinch roller. (Refer to Fig. 2-8-2.)

2-8-2 Installation(Refer to Fig. 2-8-1,2-8-2.)

A. Assemble the pinch roller cap and the pinch roller to the pinch roller arm by exercising care with the installation angle of the pinch roller cap and the marking of the Pinch Roller. (Refer to Fig. 2-8-2.)

B. Assemble the pinch roller assembly to the shaft on the main plate.(Refer to Fig. 2-8-1.)

C. Secure the pinch roller arm assembly with the pinch roller arm cap and the grip ring.

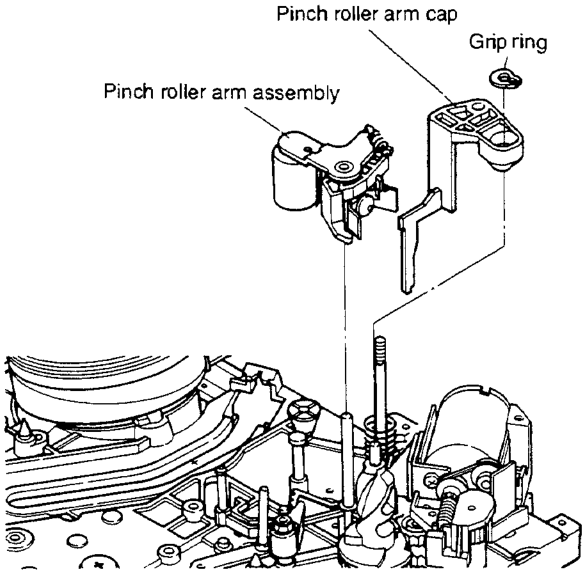

Pinch roller arm cap
Grip ring
Pinch roller arm assembly

Fig. 2-8-1

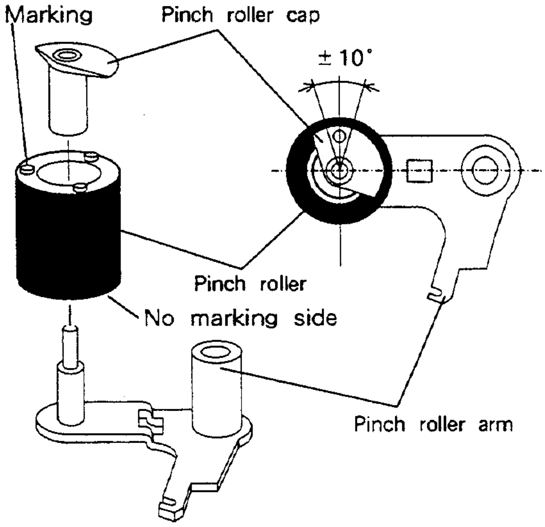

Marking
Pinch roller cap
± 10°
Pinch roller
No marking side
Pinch roller arm

Fig. 2-8-2

FOD017

2-9 Mode Switch

Note:

Replace the mode switch with the VCR in the eject mode.

2-9-1 Removal(Refer to Fig. 2-9-1)

A. Unsolder the five soldered joints of the mode switch from the PCB-DECK.

B. Unfasten two catches fastening the switch to the PCB-DECK assembly.
(Exercise care as the catches may be broken off.)

C. Remove the mode switch slowly while insuring that the soldered joints are all unsoldered.

2-9-2 Installation(Refer to Fig. 2-9-1,2-9-2.)

A. Line the matching marks of the mode switch. (Refer to Fig. 2-9-2.)

B. Finely adjust the mode switch sc that continuity at each terminal shall be as given in the illustration.

C. Fasten the switch to the PCB-DECK with care so that the switch does not turn, and secure with two catches.(Refer to Fig. 2-9-1.)

D. Solder the five terminals which connect the mode switch to the PCB-DECK assembly.

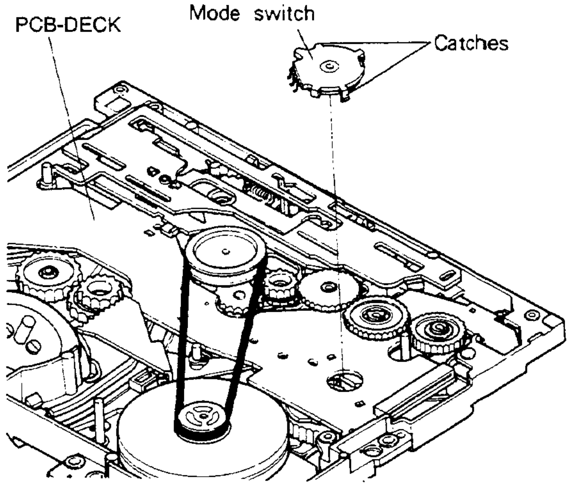

PCB-DECK
Mode switch
Catches

Fig. 2-9-1

F0D018

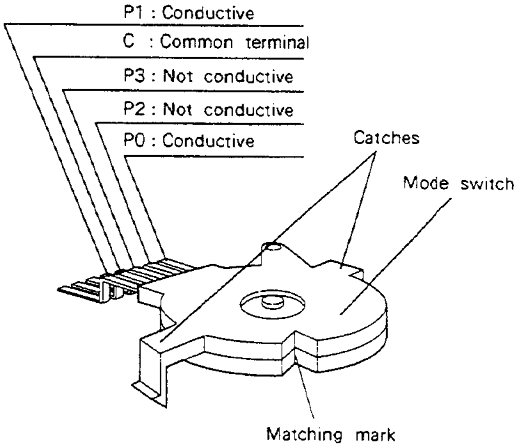

P1 : Conductive
C : Common terminal
P3 : Not conductive
P2 : Not conductive
P0 : Conductive
Catches
Mode switch
Matching mark

Fig. 2-9-2

F0D019

2-10 Supply Reel Disk

2-10-1 Removal (Refer to Fig. 2-10-1~2-10-3.)

A. Remove the cassette housing as in Para. 2-1-1.

B. Unscrew the screw ⓐ which fastens the T band holder. (Refer to Fig. 2-10-1.)

C. Unfasten the catch of the T band holder from the main plate with a small screw driver etc. as shown in Fig. 2-10-2. Raise and remove the T band holder with care not to score or dirty the tension brake belt.

D. Detach the tension spring from the tension arm and the tension lever.(Refer to Fig. 2-10-1.)

E. Remove the grip ring ⓑ which secures the tension arm. Raise the tension arm upward to remove it from the shaft.

F. Detach the tension regulation spring S from the tension regulating arm S and the tension lever.

G. Detach the safety lever spring from the safety lever and the tension lever.

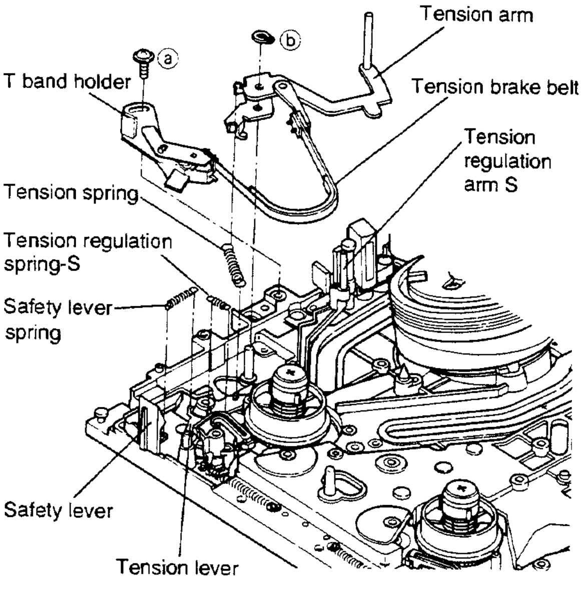

Tension arm
ⓑ
ⓐ
T band holder
Tension brake belt
Tension regulation arm S
Tension spring
Tension regulation spring-S
Safety lever spring
Safety lever
Tension lever

Fig. 2-10-1

H. Raise the tension lever avoiding the main brake S and remove the lever from the shaft.(Refer to Fig. 2-10-3.)

I. Raise the tension regulation arm S and remove it from the shaft.

J. While turning the main brake S slightly clockwise to separate the brake from the supply reel disk, and raise the supply reel disk to remove it from the shaft.(Refer to Fig. 2-10-3.)

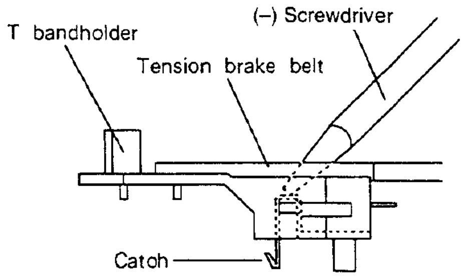

(–) Screwdriver
T bandholder
Tension brake belt
Catoh

Fig. 2-10-2

F0D021

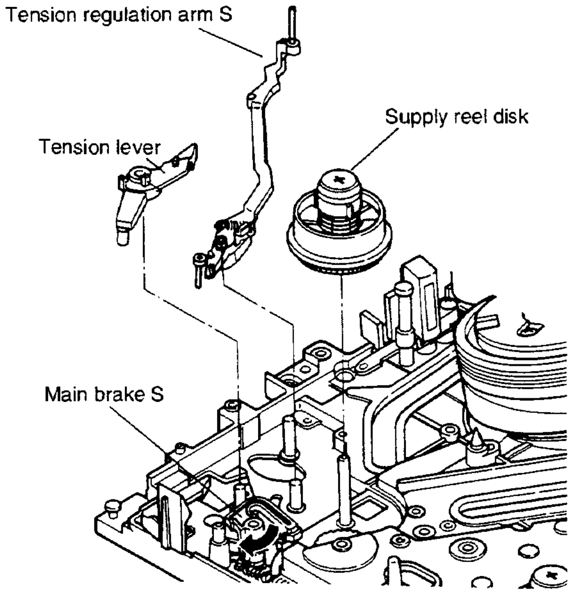

Tension regulation arm S
Supply reel disk
Tension lever
Main brake S

Fig. 2-10-3

2-10-2 Installation(Refer to Fig. 2-10-4~2-10-7.)

A. Turn the main brake S slightly clockwise to separate it from the supply reel disk shaft, and mount the supply reel disk on the shaft so that the reel gear meshes with the gear of the supply reel disk.

B. Assemble the tension regulation arm S to the shaft.

C. Assemble the tension lever to the shaft avoiding the main brake S.

Note:

Install the tension lever so that the pin at the lower part of the lever shall be in front of the slot in the main plate(viewing the front).

D. Fasten the safety lever spring to the safety lever and the tension lever.

E. Fasten the tension regulation spring S to the tension regulation arm S and the tension lever.

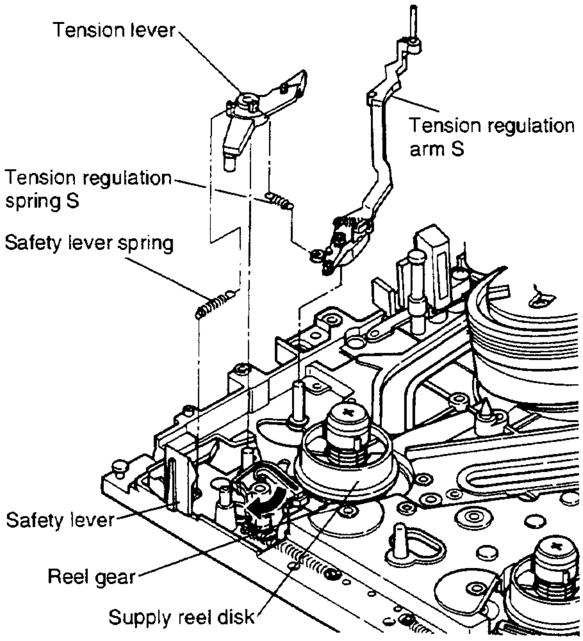

Tension lever
Tension regulation arm S
Tension regulation spring S
Safety lever spring
Safety lever
Reel gear
Supply reel disk

Fig. 2-10-4

F. Assemble the tension arm to the shaft and secure the arm with the grip ring ⓑ.(Refer to Fig. 2-10-5.)

G. Fasten the tension spring to the tension arm and the tension lever.(Refer to Fig. 2-10-5.)

H. Assemble the T band holder to the main plate with care not to score or dirty the tension brake belt, and secure the holder with the screw ⓐ lightly.(Refer to Fig. 2-10-5.)
Note:
In the assembly of the T band holder, make oertain that the hook of the holder positively engages with the reverse side of the main plate.
If the hook is difficult to engage with the main plate, push the hook lightly with a small sorew driver etc.(Refer to Fig. 2-10-2.)

I. Separate the main brake S and the tension regulation arm S from the supply reel disk and make certain that the disk turns freely.(Refer to Fig. 2-10-3.)

J. Place the reel disk height adjusting jig(Part Number 859C342020) in the reference position on the main plate.(Refer to Fig. 2-10-6.)

K. Slowly turn the jig about point A and make sure that the height of the supply reel disk flange agrees with the point B on the supply disk adjusting side of the jig (marked SP).(Refer to Fig. 2-10-7.)

L. If the height of the disk is not satisfactory, hold the disk so that it does not turn, and turn the height adjusting screw at the top of the disk to adjust the height. (Refer to Fig. 2-11-3.)
   A) Turn the screw clockwise if the measured height is low.
   B) Turn the screw counterolockwise if the measured height is high.

M. On completion of adjustment, lock the height adjusting screw by burning it with the tip of a hot iron.

N. Install the cassette housing as in Para. 2-1-2.

O. Adjust back tension and tension pole position as outlined in Para. 3-1.

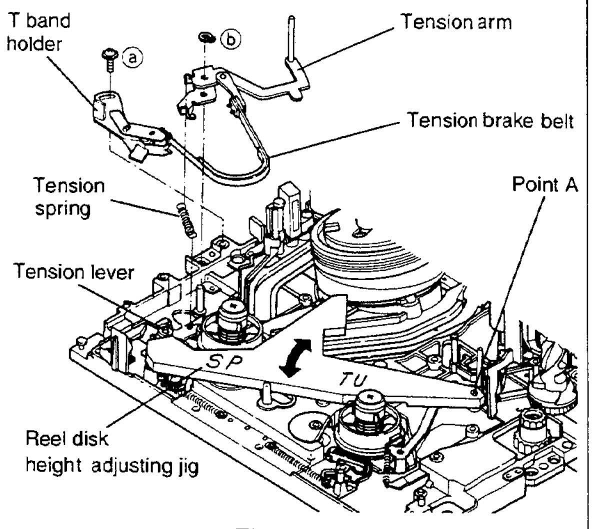

T band holder
ⓐ
ⓑ
Tension arm
Tension brake belt
Point A
Tension spring
Tension lever
SP
TU
Reel disk height adjusting jig

Fig. 2-10-5

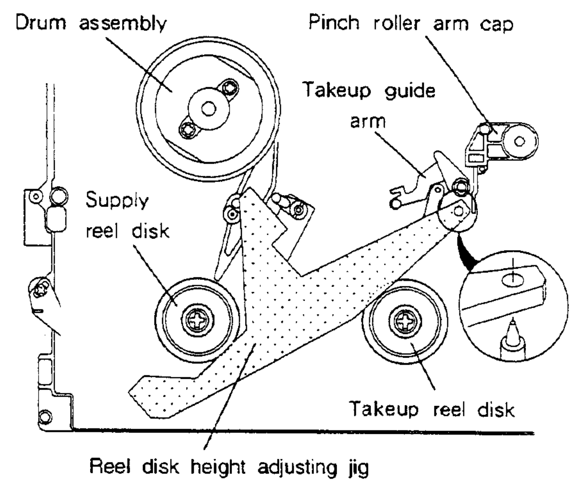

Drum assembly
Pinch roller arm cap
Takeup guide arm
Supply reel disk
Takeup reel disk
Reel disk height adjusting jig

Fig. 2-10-6 F0D025

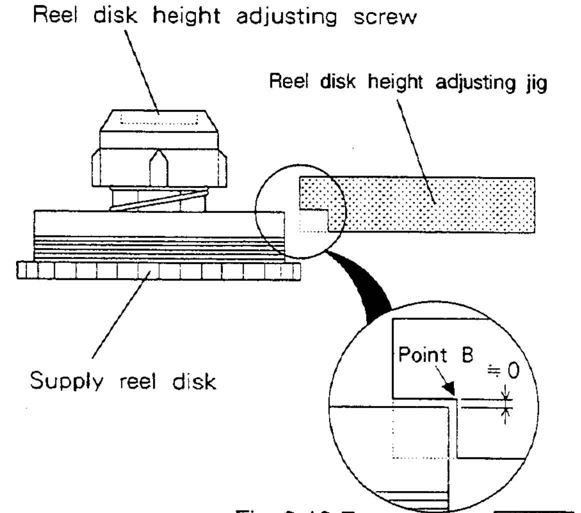

Reel disk height adjusting screw
Reel disk height adjusting jig
Supply reel disk
Point B
≒0

Fig. 2-10-7 F0D026

2-11 Takeup Reel Disk

2-11-1 Removal(Refer to Fig. 2-11-1.)

A. Remove the cassette housing as in Para. 2-1-1.

B. Detach the spring RS and the tension regulation spring T from the tension regulation arm T and the lever RS.

C. Remove the cut washer which fastens the tension regulation arm T.

D. Turn the takeup guide arm slightly clockwise and raise the tension regulation arm T to remove it from the shaft.

E. Turn the main brake slightly counter-clockwise to separate the brake from the takeup reel disk and raise the disk upwards to remove it from the shaft.

2-11-2 Installation(Refer to Fig. 2-11-2, 2-11-3.)

A. Turn the main brake T slightly counter-clockwise to release the takeup reel disk shaft. Slip the takeup reel disk onto the shaft so that the gear of the takeup reel shall mesh with the reel gear.(Refer to Fig. 2-11-2.)

B. Turn the takeup guide arm slightly clockwise and install the tension regulation arm T to the shaft. Secure the arm with a cut washer.

C. Fasten the tension regulation spring T and the spring RS to the tension regulation arm T and the lever RS.

D. Separate the main brake T and the tension regulation arm T from the takeup reel disk and make certain that the takeup reel disk turns freely.

E. Place the reel disk height adjusting jig(Part Number 859C342020) in the reference position on the main plate. (Refer to Fig. 2-10-6.)

F. Turn the jig slowly about the point A towards the takeup reel disk to make certain that the height of the disk flange agrees with the point B on the takeup side of the jig(marked TU). (Refer to Fig. 2-11-3.)

G. If the height of the disk is not satisfactory, hold the disk so that it shall not turn, and turn the height adjusting screw at the top of the disk to adjust the height. (Refer to Fig. 2-11-3.)
   A) Turn the screw clockwise if the measured height is low.
   B) Turn the screw counterclockwise if the measured height is high.

H. On completion of height adjustment, lock the adjusting screw by burning it with the tip of a hot iron.

I. Install the cassette housing as in Para. 2-1-2.

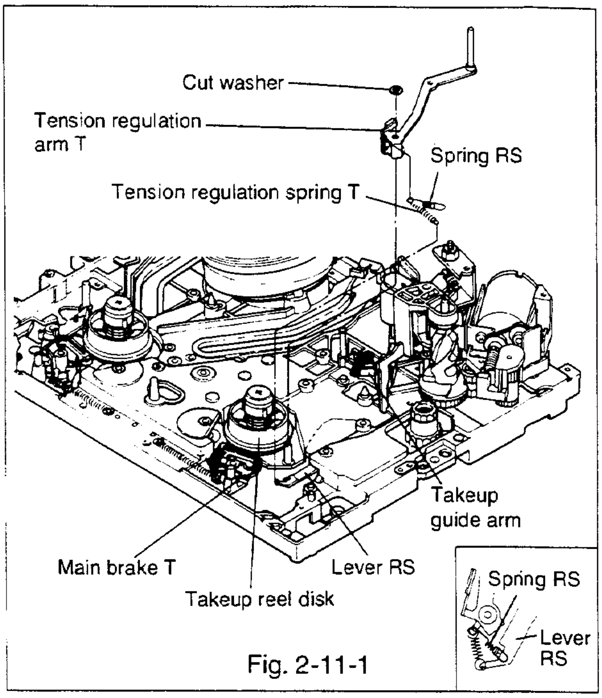

Cut washer
Tension regulation arm T
Spring RS
Tension regulation spring T
Takeup guide arm
Main brake T
Lever RS
Takeup reel disk
Spring RS
Lever RS

Fig. 2-11-1

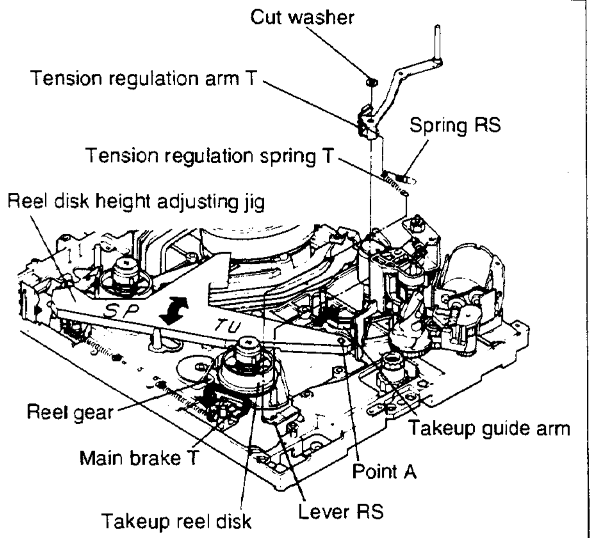

Cut washer
Tension regulation arm T
Spring RS
Tension regulation spring T
Reel disk height adjusting jig
SP
TU
Reel gear
Takeup guide arm
Main brake T
Point A
Takeup reel disk
Lever RS

Fig. 2-11-2

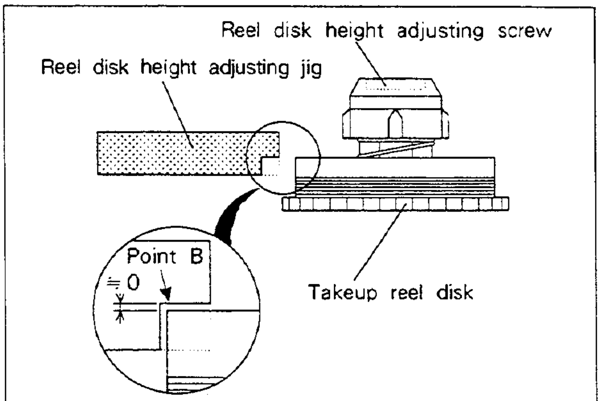

Reel disk height adjusting screw
Reel disk height adjusting jig
Point B
≒0
Takeup reel disk

Fig. 2-11-3

F0D029

2-12 A/C Head

2-12-1 Removal (Refer to Fig. 2-12-1, 2-12-2.)

A. Disconnect the connector from the PCB-A/C HEAD.(Refer to Fig. 2-12-1.)

B. Remove the nut which fastens the A/C head assembly.

C. Raise upwards and remove the A/C head assembly from the shaft by paying attention to the A/C arm spring which turns the A/C head assembly clockwise.

D. Remove three A/C head fastening screws(ⓐ ~ ⓒ) and the A/C spring shown in Fig. 2-12-2, and remove the A/C head from the A/C arm.

E. Unsolder the PCB-A/C HEAD from the A/C head.(Refer to Fig. 2-12-2.)

2-12-2 Installation(Refer to Fig. 2-12-1~2-12-3.)

A. Solder the PCB A/C HEAD to the A/C head. (Refer to Fig. 2-12-2.)

B. Fasten the A/C head to the A/C arm with three screws(ⓐ ~ ⓒ) and the A/C spring.

Note:

Install the A/C head to the A/C arm so that the base surface of the A/C head shall be parallel to the A/C arm, and their spacing and the A/C head installation screwⓒ height shall be as specified in Fig. 2-12-3.

C. Assemble the A/C head assembly to the shaft while turning the A/C arm spring counter-clockwise about 60° (Refer to Fig. 2-12-1.)

D. Tighten the A/C head assembly fastening nut so that the base surface of the A/C head shall be about 7mm above the main plate surface.(Refer to Fig. 2-12-3.)

E. Plug in the connector to the PCB-A/C HEAD. (Refer to Fig. 2-12-1.)

F. Conduct the A/C head adjustment and the phase adjustment as outlined in Para. 3-3 and 3-4.

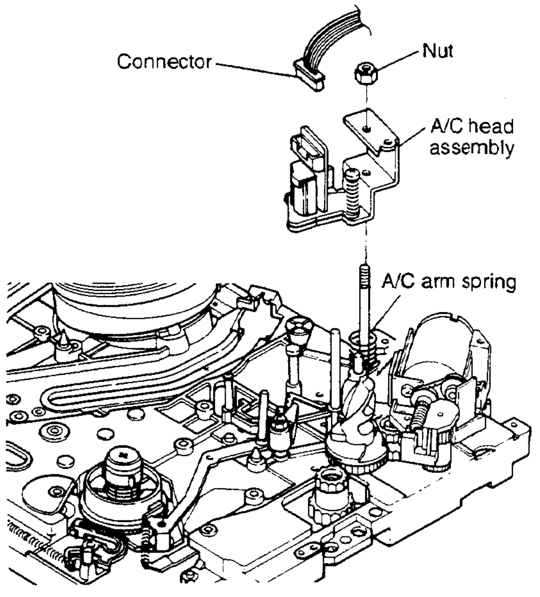

Connector
Nut
A/C head assembly
A/C arm spring

Fig. 2-12-1

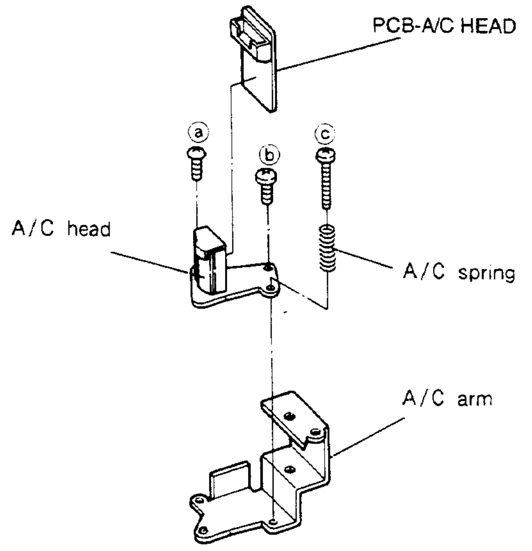

PCB-A/C HEAD
ⓐ
ⓑ
ⓒ
A/C head
A/C spring
A/C arm

Fig. 2-12-2

F0D031

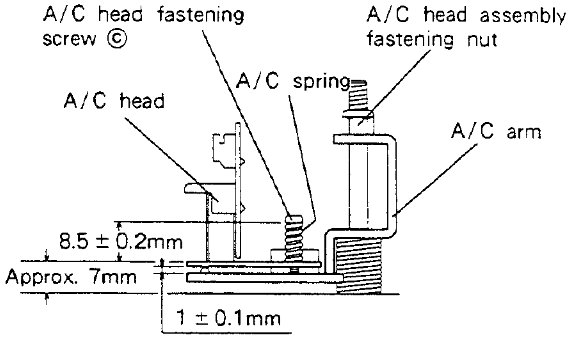

A/C head fastening screw ⓒ
A/C head assembly fastening nut
A/C spring
A/C head
A/C arm
8.5 ± 0.2mm
Approx. 7mm
1 ± 0.1mm

Fig. 2-12-3

F0D032

2-13 Take Up Guide Arm

2-13-1 Removal(Refer to Fig. 2-13-1.)

A. Set the VCR in the eject mode.

B. Remove the pinch roller arm assembly.
(Refer to Para. 2-8 " Pinch Roller ")

C. Raise and separate the pinch roller cam and the TU-G gear arm from the shaft at the same time.

D. Remove the takeup guide arm fastening nut. Raise and separate the takeup guide arm from the shaft with care not to lose the TU-G spring.

2-13-2 Installation(Refer to Fig. 2-13-1~2-13-3.)

A. Install the TU-G spring and the takeup guide arm so that one end of the TU-G spring is fastened to the takeup guide arm and the other end is fastened to the hook of the main plate. Secure them with the fastening nut temporarily.

B. Place the reel disk height adjusting jig(for the F deck) in the reference position on the main plate(Refer to Fig. 2-10-6). Insure the takeup guide arm is level with point B of the height adjusting jig(for the E deck). (Refer to Fig. 2-13-2.)

C. Turn the takeup tension lever fully clockwise as shown in Fig. 2-13-1.

D. Line the matching mark on the TU-G gear arm and beginning of gear section on the takeup guide arm, and line the matching mark on the pinch roller cam and center of gear on the joint gear as shown in Fig. 2-13-3, and install the pinch roller cam and the TU-G gear to the shaft at the same time.

E. Assemble the pinch roller arm assembly to the shaft on the main plate.(Refer to Fig. 2-13-1.)

F. Secure the pinch roller arm assembly with the pinch roller arm cap and the grip ring.

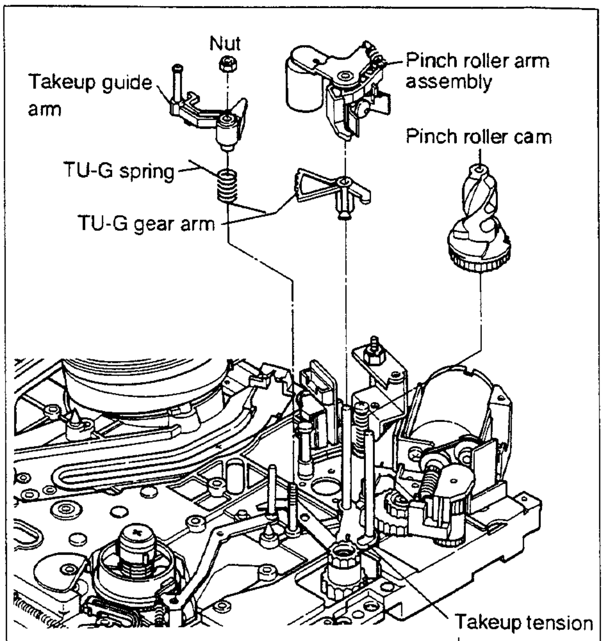

Nut
Takeup guide arm
Pinch roller arm assembly
Pinch roller cam
TU-G spring
TU-G gear arm
Takeup tension lever

Fig. 2-13-1

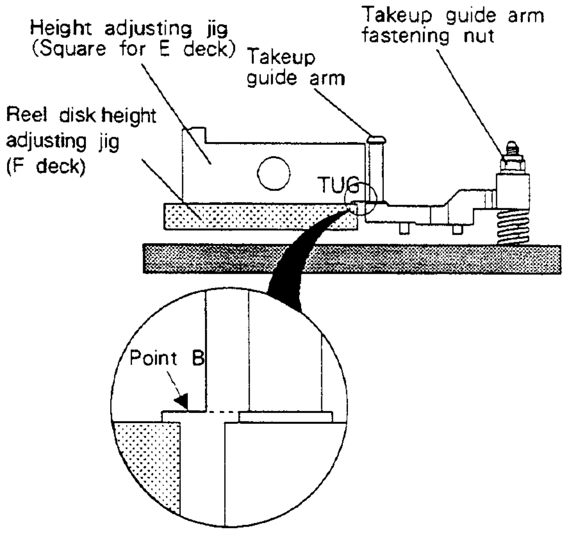

Height adjusting jig (Square for E deck)
Takeup guide arm fastening nut
Takeup guide arm
Reel disk height adjusting jig (F deck)
TUG
Point B
F0D034

Fig. 2-13-2

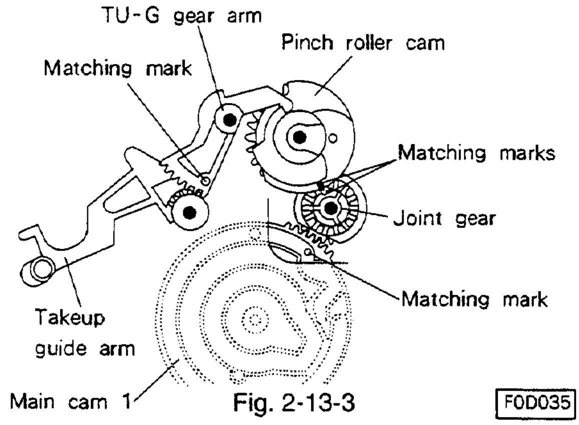

TU-G gear arm
Pinch roller cam
Matching mark
Matching marks
Joint gear
Matching mark
Takeup guide arm
Main cam 1
F0D035

Fig. 2-13-3

2-14 PCB-Deck(Printed Circuit Board)

2-14-1 Removal(Refer to Fig. 2-14-1, 2-14-2.)

A. Detach the capstan brake spring from the capstan brake and the loading gear arm.(Refer to Fig. 2-14-1.)
B. Remove the reel belt from the bottom of the deck.(Refer to Fig. 2-5.)
C. Detach two grip rings ⓕ shown in Fig. 2-14-2 and remove the loading gear arm.
D. Unsolder the terminals of the FE head.(Refer to Fig. 2-14-1.)
E. Unfasten the catches and remove the F/L gear 2, 3 and 4.(Refer to Fig. 2-14-2.)
F. Remove grip ring ⓖ and cut washer ⓗ, and unfasten three catches shown in Fig. 2-14-3 to remove the cam plate B.(Refer to Fig. 2-14-2.)
G. Unscrew five fastening screws(ⓐ ~ ⓔ)and remove the PCB-DECK.(Refer to Fig. 2-14-2.)

2-14-2 Installation(Refer to Fig. 2-14-1~2-14-3.)

A. Make certain that the mode switch is set to the eject position.(Refer to section 2-9.) Fasten the PCB-DECK with five screws and solder the FE head terminals. (Refer to Fig. 2-14-1.)
Note:
The safety lever is normally held leftward with a spring. Pull the safety lever forwards and install the PCB-DECK.
B. Install the cam plate B by paying attention to the pin(ⓐ ~ ⓖ) positions shown in Fig. 2-14-3, and secure the plate with three catches, grip ring ⓖ and cut washer ⓗ.
C. Line the matching mark on the loading arm T and that on the loading gear arm as shown in Fig. 2-14-3, and assemble the loading gear arm so that the pin of the loading gear arm shall enters the groove of the main cam 2. Secure the loading gear arm with two grip rings ⓕ.
D. Assemble the F/L gear 2, 3, and 4 to the shafts.(Refer to Fig. 2-14-2.)
E. Install the reel belt.(Refer tc Fig. 2-5.)
F. Fasten the capstan brake spring to the capstan brake and the loading gear arm from the top side of the deck.(Refer to Fig. 2-14-1.)

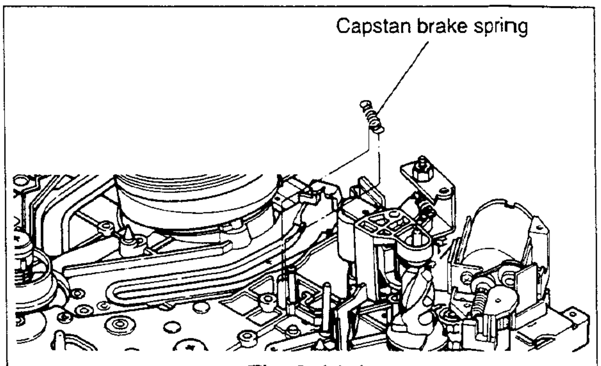

Capstan brake spring

Fig. 2-14-1

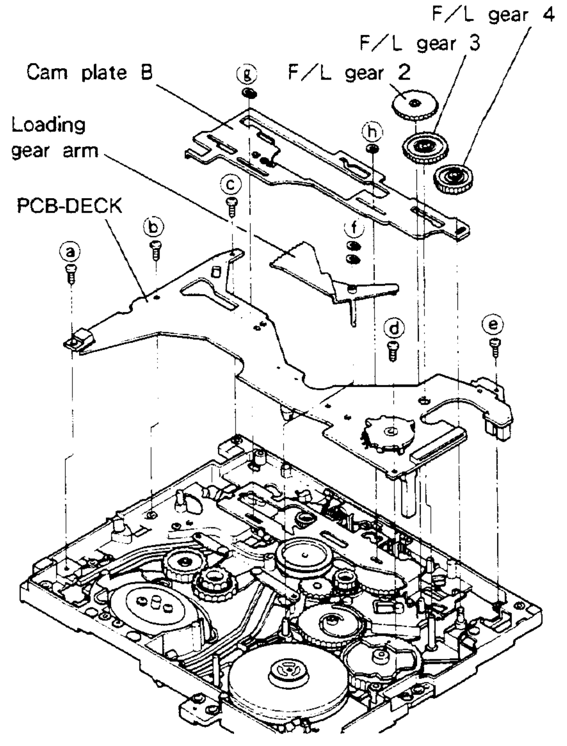

F/L gear 4
F/L gear 3
Cam plate B
ⓖ
F/L gear 2
Loading gear arm
ⓗ
ⓒ
PCB-DECK
ⓑ
ⓕ
ⓐ
ⓓ
ⓔ

Fig. 2-14-2 F0D037

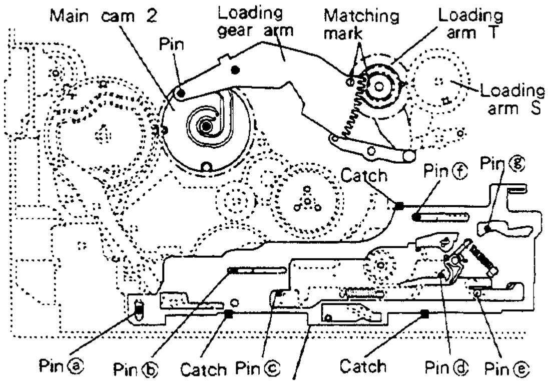

Main cam 2
Loading gear arm
Pin
Matching mark
Loading arm T
Loading arm S
Catch
Pin ⓕ
Pin ⓖ
Pin ⓐ
Pin ⓑ
Catch
Pin ⓒ
Cam plate B
Catch
Pin ⓓ
Pin ⓔ

Fig. 2-14-3 F0D038

2-15 Positioning and Installation Sequence of Parts Around Main Cam 1 (Bottom Side of Deck) (Refer to Fig. 2-15-1~2-15-6.)

Note:

Set the VCR to the eject mode to install the main cam 1 and its peripheral parts.

A. Line the positioning hole in lever RS to that of the main plate, and assemble lever RS to the shaft.(Refer to Fig. 2-15-1.)

B. Line the positioning hole in lever C with that of the main plate, and assemble lever C to the shaft.

C. Take care not to move the lever RS and lever C, assemble the main cam 1 to the shaft by lining the matching mark of the joint gear with the positioning hole of main plate. Secure the main cam 1 with the grip ring.(Refer to Fig. 2-15-2.)

Note:

The pins of the lever RS and the lever C enter the groove of the main cam 1 when the levers are lined with the positioning holes.

Make certain that the pins of the levers enter the groove of the main cam 1.

D. Assemble the thrust washer to the pin ⓒ shown in Fig. 2-15-2, and install the cam plate C so that the corresponding positions of the plate match the pins(ⓐ ~ ⓖ).

E. Fasten cam spring C to cam plate C and the cam plate holder.(Refer to Fig. 2-15-2.)

F. Assemble lever B to the shaft so that the pin of the lever shown in Fig. 2-15-3 enters the groove of the main cam 1. Secure the lever with a grip ring.

G. Line the positioning hole of the F/L idler lever with that of the main plate.(Refer to Fig. 2-15-3.)

Note:

The pin of the F/L idler lever enters the groove of the main cam 2 when the positioning hole of the F/L idler lever is aligned.

Make certain that the pin of the lever enters the groove of the main cam 2.

H. Line the matching mark of main cam 2 with that of main cam 1, and also the positioning hole of main cam 2, and assemble the main cam 2 to the shaft. (Refer to Fig. 2-15-3.)

Note:

Make certain that the pin of the F/L idler lever correctly enters in the groove of the main cam 2.

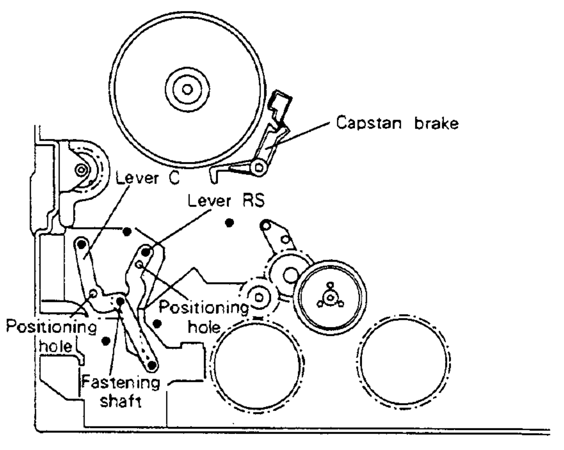

Capstan brake
Lever C
Lever RS
Positioning hole
Positioning hole
Fastening shaft

Fig. 2-15-1

FOD039

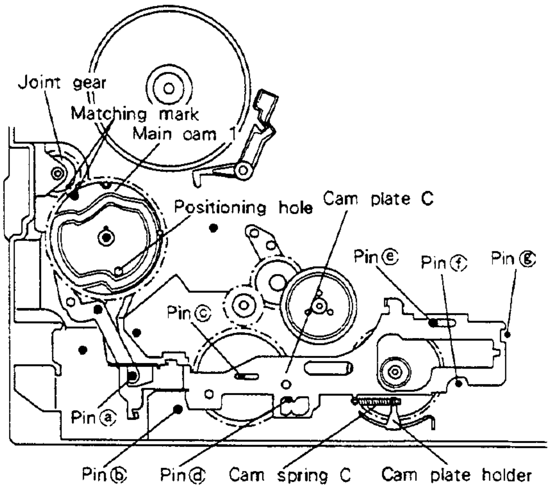

Joint gear
Matching mark
Main cam 1
Positioning hole
Cam plate C
Pin ⓔ
Pin ⓕ
Pin ⓖ
Pin ⓒ
Pin ⓐ
Pin ⓑ
Pin ⓓ
Cam spring C
Cam plate holder

Fig. 2-15-2

FOD040

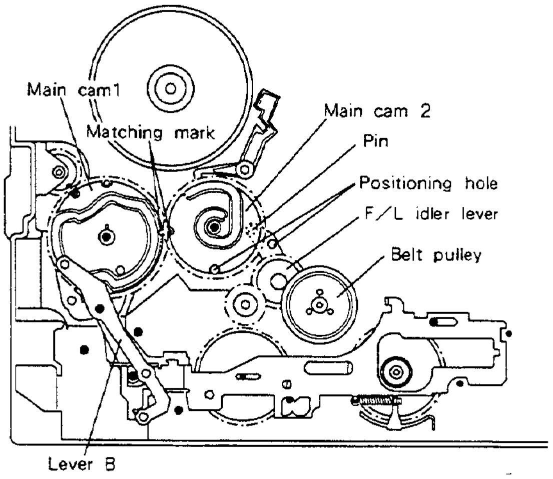

Main cam1
Matching mark
Main cam 2
Pin
Positioning hole
F/L idler lever
Belt pulley
Lever B

Fig. 2-15-3

FOD041

I. Make certain that the mode switch is in the eject position. Fasten the PCB-DECK assembly with five screws and solder the FE head terminals.(Refer to Fig. 2-14-2 and 2-14-1.)

Note:

The safety lever is normally held in the leftward position by the spring. Pull the lever forwards and install the PCB-DECK assembly.

J. Install the cam plate B so that the plate matches pins (ⓐ ~ ⓖ) as shown in Fig. 2-15-4, especially pin ⓔ, and secure the plate with three clamps, cut washer (pin ⓑ) and grip ring (pin ⓕ).

K. Line the matching mark of the loading arm T with that of the loading gear arm as shown in Fig. 2-15-4, and assemble the loading gear arm to the shaft so that the pin of the loading gear arm enters the groove of the main cam 2. Secure arm with two grip rings ⓕ. (Refer to Fig. 2-15-5.)

L. Assemble the F/L gear 2, 3, and 4 to the shafts as shown in Fig. 2-15-5.

M. Install the reel belt. (Refer to Fig. 2-5.)

N. Fasten the tension regulation spring T and the spring RS to the tension regulation arm T and the lever RS from the top side of the deck. (Refer to Fig. 2-11-1.)

O. Fasten the capstan brake spring to the capstan brake and the loading gear arm from the top side of the deck. (Refer to Fig. 2-15-6.)

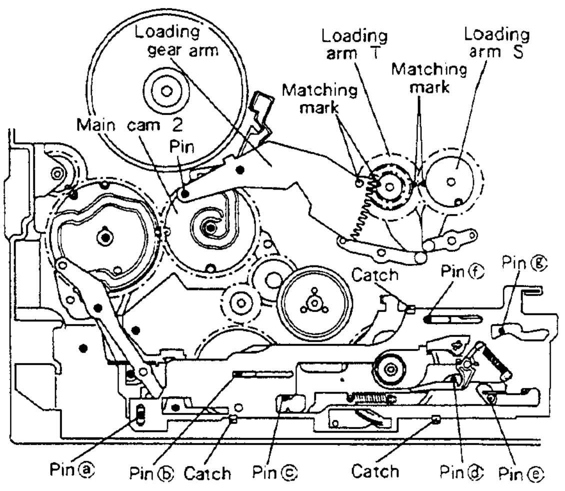

Loading gear arm
Main cam 2
Pin
Loading arm T
Matching mark
Loading arm S
Matching mark
Catch
Pinⓕ
Pinⓖ
Pinⓐ
Pinⓑ Catch
Pinⓒ
Catch
Pinⓓ
Pinⓔ

Fig. 2-15-4 F0D042

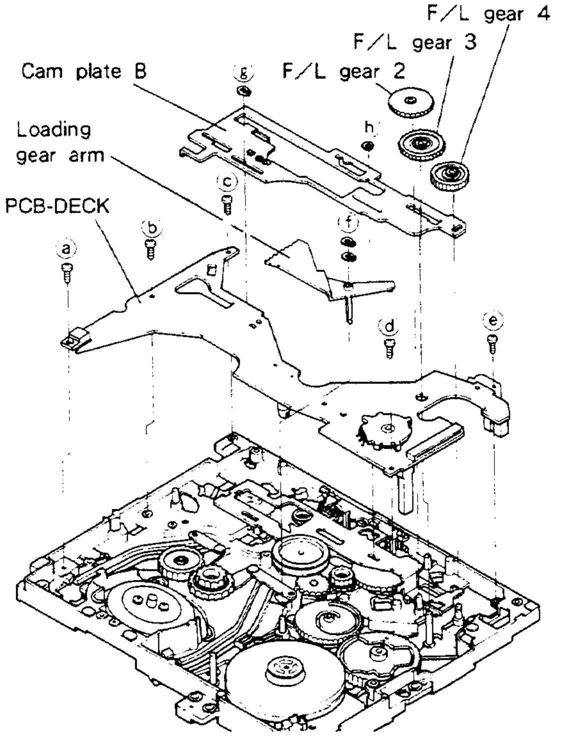

F/L gear 4
F/L gear 3
Cam plate B
g
F/L gear 2
h
Loading gear arm
PCB-DECK
c
b
f
a
d
e

Fig. 2-15-5 F0D037

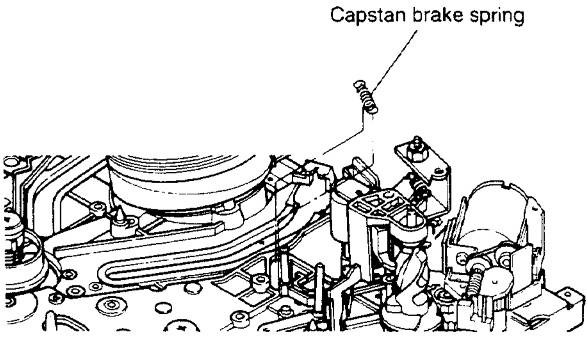

Capstan brake spring

Fig. 2-15-6

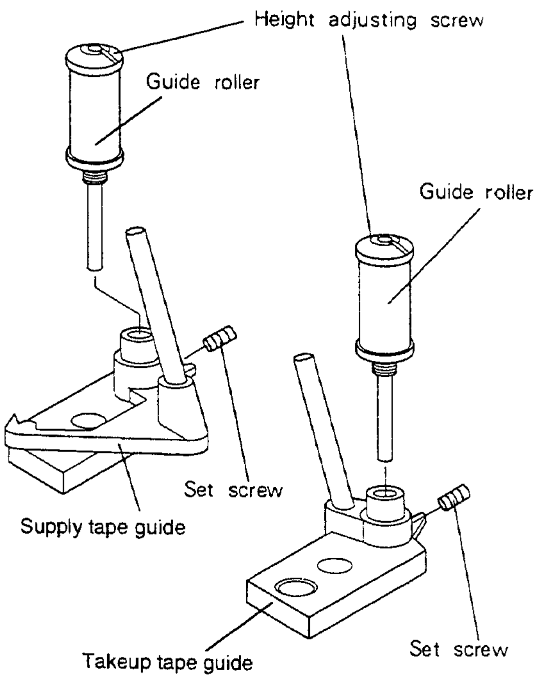
2-16 Supply and Takeup Guide Rollers

2-16-1 Removal(Refer to Fig. 2-16.)

A. Remove the cassette housing as in Para. 2-1-1.
B. Loosen the set screw so the guide roller turns freely.
C. Loosen the guide roller height adjusting screw located at the top of the guide roller by turning counterclockwise with the height adjusting screwdriver. Raise and remove the roller from the tape guide.

2-16-2 Installation(Refer to Fig. 2-16.)

A. Make certain that the fastening thread section of a new guide roller is provided with a rubber ring.
B. Set the new guide roller in the tape guide fastening hole.
C. Turn the guide roller slowly clockwise till it becomes heavy.
D. Turn further about 1/6 turn from the point where the guide roller becomes heavy, and return the roller about one turn counter-clockwise.
E. Again turn the guide roller slowly clockwise till it becomes heavy. Turn the roller further about 1/6 turn from the point where the roller becomes heavy.
F. Secure the guide roller lightly with the set screw. Check and adjust the envelope as in Para. 3-2.



Height adjusting screw
Guide roller
Guide roller
Set screw
Supply tape guide
Takeup tape guide
Set screw
F0D043

Fig. 2-16

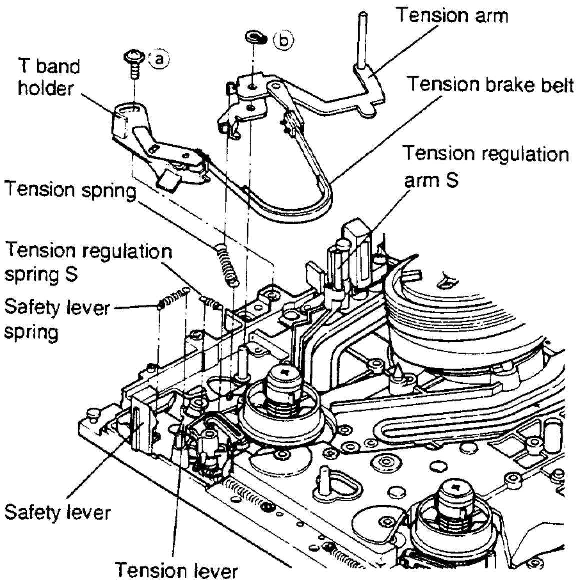
2-17 Supply and Takeup Tape Guide Assemblies

Note:

Refer to section 3-2-7 and 3-3-3 before replacing the supply or takeup tape guide assemblies.

2-17-1 Removal(Refer to Fig. 2-17-1~2-17-4.)

A. Remove the cassette housing as in Para. 2-1-1.
B. Detach the capstan brake spring from the capstan brake and the loading gear arm.(Refer to Fig. 2-15-6.)
C. Remove the reel belt. (Refer to Fig. 2-5.)
D. Secure the tension arm and the tension regulation arm S with a rubber band etc. so as to separate them from the supply guide roller.(Refer to Fig. 2-17-1.)



Tension arm
ⓑ
T band holder
ⓐ
Tension brake belt
Tension regulation arm S
Tension spring
Tension regulation spring S
Safety lever spring
Safety lever
Tension lever

Fig. 2-17-1

E. Remove the grip ring and remove the loading gear arm.(Refer to Fig. 2-17-2.)
F. Turn the loading arm S and T to the loading position.(Refer to Fig. 2-17-2.)
G. Unfasten the clamp shown in Fig. 2-17-3, and remove loading arm S.
H. Remove the loading arm T is being replaced the takeup guide assembly.
I. Unfasten the clamp of the slider which secures the supply or takeup tape guide assembly, and remove the tape guide assembly and the slider from the main plate.(Refer to Fig. 2-17-4.)

2-17-2 Installation(Refer to Fig. 2-17-1~2-17-4.)

A. Place a new tape guide assembly on the installation rail of the main plate and install the slider on the reverse side of the main plate so that the catch of the slider enters the fastening hole of the tape guide assembly.
B. If the takeup tape guide is replaced, install the loading arm T first.(Refer to Fig. 2-17-2.)
C. Install the loading arm T so that the matching mark of the loading arm S is lined with the matching mark of the loading arm T as illustrated in Fig. 2-17-2.
D. Line the matohing mark of the loading gear arm with that of the loading arm T, and assemble the loading gear arm to the shaft so that the pin of the loading gear arm enters the groove of the main cam 2. Secure the loading gear arm with two grip rings.
E. Install the reel belt.(Refer to Fig. 2-5.)
F. Fasten the capstan brake spring to the capstan brake and the loading gear arm from the top side of the deck.(Refer to Fig. 2-17-1.)
G. Install the cassette housing as in Para. 2-1-2.

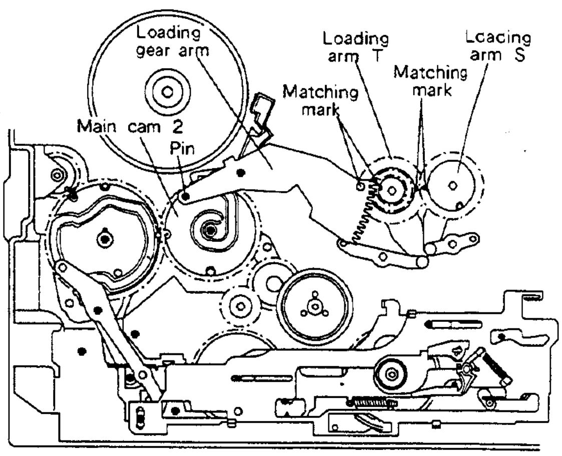

Loading gear arm
Main cam 2
Pin
Loading arm T
Matching mark
Matching mark
Loading arm S

Fig. 2-17-2

F0D044

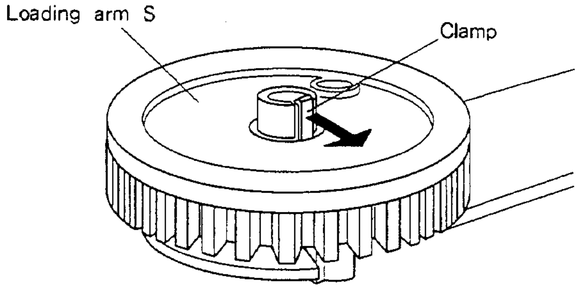

Loading arm S
Clamp

Fig. 2-17-3

F0D045

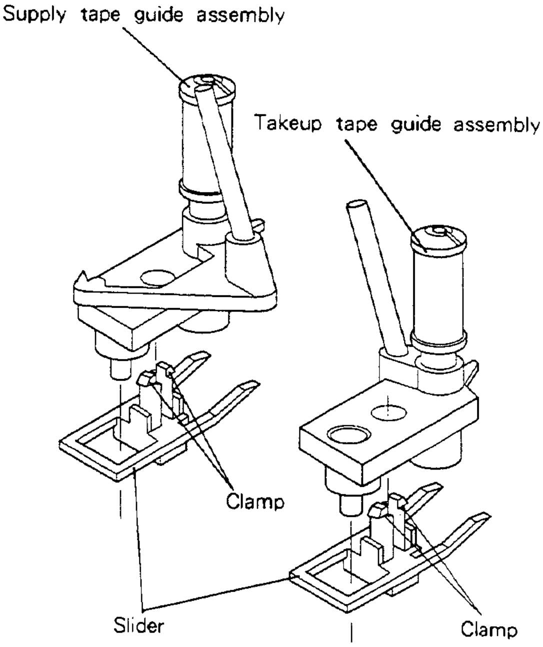

Supply tape guide assembly
Takeup tape guide assembly
Clamp
Slider
Clamp

Fig. 2-17-4

F0D046

3. Interchangeability Adjustment of Mechanism

Note:

Tracking may need to be preset in the inter-changeability adjustment of the mechanism.

Digital tracking should be preset. To preset,short circuit TP5A and TP5B on the PCB-MAIN.

Note:

The adjustment is conducted in the playback mode, using the stair step signal of the alignment tape, connect an oscilloscope to TP2A and external Trig. to TP2H, unless other-wise specified.

3-1 Adjustment of Back Tension and Tension Pole Position(Refer to Fig. 3-1.)

Run a blank tape for several minutes to break in the reel disks and the transport before beginning the adjustment.

A. Set the back tension measuring jig and set the VCR to the playback mode.

B. When the running of the tape beoomes steady, make certain that the tension arm check hole is within the M/P hole of the main plate(0±0.5mm)or the interval between the centre of tension pole and the centre of Supply guide pole is 2.0±0.5mm.

C. If neither the centre of Tension pole nor the tension arm check hole is in position, loosen the T band holder fastening screw lightly and move the T band holder so that the condition specified by the para.B is satisfied.

D. On completion of adjustment, tighten the T band fastening screw.

E. Make certain that the reading of the back tension measuring jig is 50±6g-cm.

F. When the running of the tape is steady, check visually to make certain that the deflection of the Tension pole is 1mm or less.

Note:

Slight fluctuation of back tension may be tolerated, however if fluctuation exceeds 5g-cm, the reel disk etc. may be defective. Examine and correct the defect.

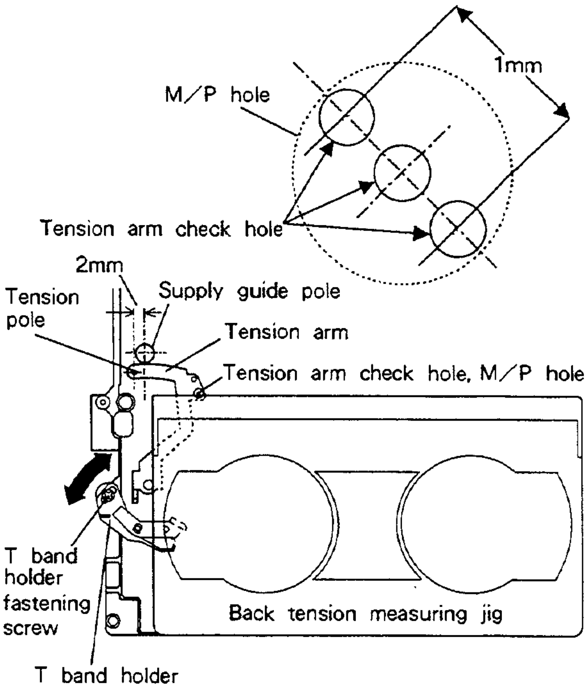

1mm
M/P hole
Tension arm check hole
2mm
Tension pole
Supply guide pole
Tension arm
Tension arm check hole, M/P hole
T band holder fastening screw
Back tension measuring jig
T band holder
F0D047

Fig. 3-1

3-2 Check and Adjustment of FM Envelope

3-2-1 Guide Roller Adjustment(Refer to Fig. 3-2-1.)

A. Set the VCR to the playback mode.
B. Preset tracking.
C. Check if the FM waveform is flat like A shown in Fig. 3-2-1.
D. Adjust the height of the supply guide roller as in 3-2-2 if the leading portion (the entry side of the drum)of the FM waveform is not flat like B or C.
Adjust the height of the takeup guide roller as in 3-2-3 if the trailing portion (the exit side of the drum)is not flat like D or E.

3-2-2 Adjustment of Supply Guide Roller Height (Refer to Fig. 3-2-1, 3-2-2.)

A. Loosen the set screw to such a degree so the supply guide roller turns lightly.(Refer to Fig. 3-2-2.)
B. The supply guide roller is low if the leading portion(the entry side of the drum) of the FM waveform is like B, and high if like C. Adjust the height of the roller by turning the adjusting screw at the top of the roller so that the FM waveform shall be flat like A.
  - Turn the adjusting screw counterclockwise if the roller is low.
  - Turn the adjusting sorew clockwise if the roller is high.

C. Carry out the coarse adjustment of phase as in 3-2-4.

3-2-3 Adjustment of Takeup Guide RollerHeight (Refer to Fig. 3-2-1, 3-2-2.)

A. Loosen the set screw to such a degree as the takeup guide roller turns lightly.(Refer to Fig. 3-2-2.)
B. The takeup guide roller is low if the trailing portion(the exit side of the drum) of the FM waveform is like D, and high if like E. Adjust the height of the roller by turning the adjusting screw at the top of the roller so that the FM waveform shall be flat like A.
  - Turn the adjusting screw counterclockwise if the roller is low.
  - Turn the adjusting screw clockwise if the roller is high.

C. On completion of height adjustment, adjust the azimuth and height of the A/C head as in 3-3-2.
D. Coarsely adjust the phase as in 3-2-4.

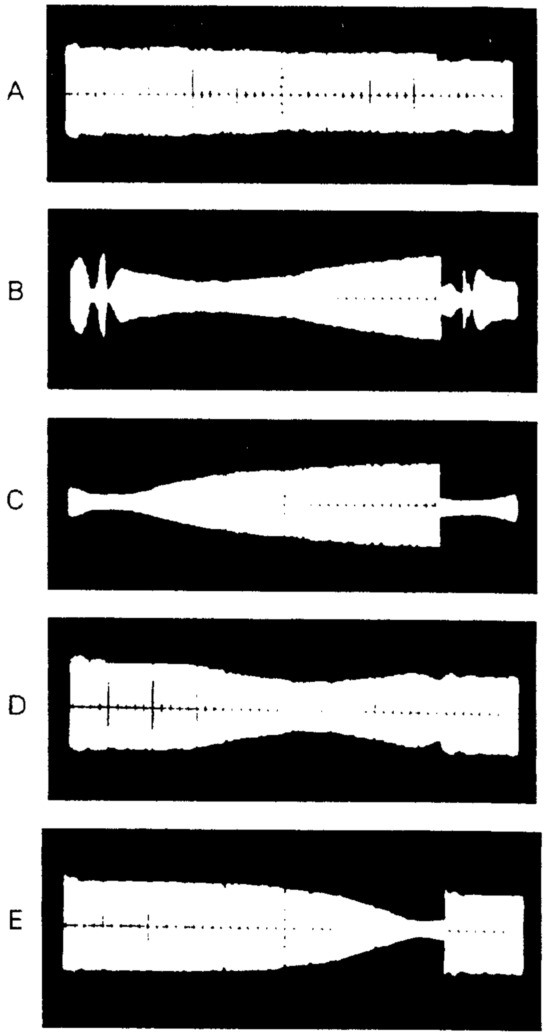


Fig. 3-2-1

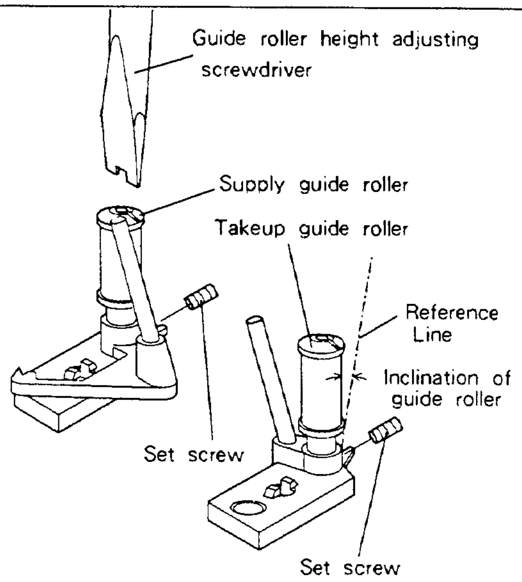


Fig. 3-2-2

3-2-4 Coarse Phase Adjustment (Refer to Fig. 3-2-3, 3-2-4.)

A. Set the VCR to the playback mode.
B. Preset tracking.
C. Check the FM waveform after checking and adjusting the guide rollers.
D. If the amplitude of the FM waveform is narrow like F because of out of phase, adjust the phase adjusting nut so that the amplitude of the FM waveform is maximum.

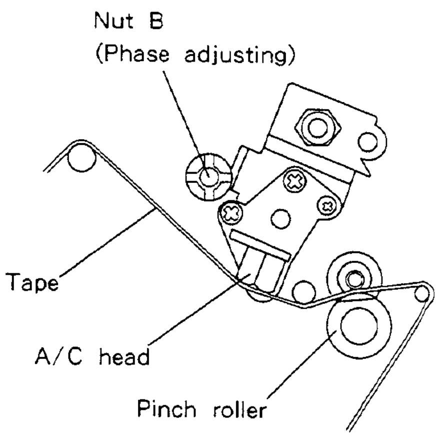


Fig. 3-2-3 FOD054

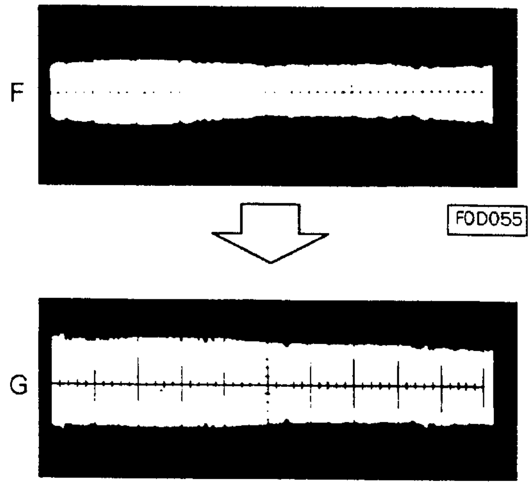
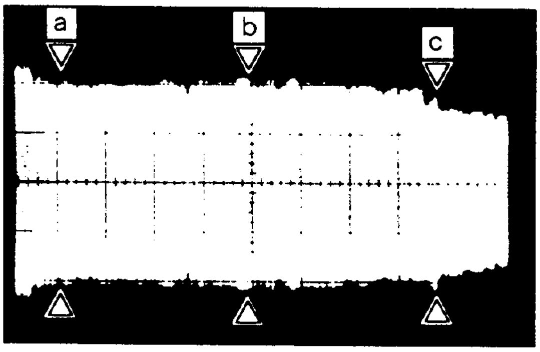


Fig. 3-2-4 FOD056

3-2-5 Check of FM Waveform Flatness (Refer to Fig. 3-2-5.)

A. Set the VCR to the playback mode.
B. Set the tracking switch to the manual mode. Vary tracking and check if the amplitude changes and the waveform remains flat.
C. Adjust tracking in the manual mode so that the amplitude is maximum, and adjust the oscilloscope so that the amplitude is '5' on the scale of the oscilloscope.
D. Adjust tracking so that the amplitude at the middle(around the point 'b')of the FM wave form is about 80%('4' on the scale of the scope)of the maximum amplitude. Make certain that the amplitudes at points 'a' and 'c' satisfy the requirements given in Fig. 3-2-5.
E. If deviating from the requirements, conduct the check and adjustment of the FM envelope beginning with 3-2.



a	c
At least 2.8 of the scale	At least 2.8 of the scale

Fig. 3-2-5 FOD057

3-2-6 Check 1:Tape Running Condition on Guide Rollers(Refer to Fig. 3-2-6.)

A. Set the VCR to the playback mode.

B. Visually check if there is a space between the tape and the lower flange of the supply and the take up guide rollers.

C. If not, replace the tape guide as in 3-2-7.

Note:

In this case the tape guide should be replaced with the tape guide which has a larger inclination.

D. If the supply tape guide is replaced, check the guide roller as in 3-2-1.

If the take up tape guide is replaced, check the guide roller as in 3-2-3, and the waveform flatness as in 3-2-5

E. Load and unload the tape several times to make oertain that the flatness of the FM waveform does not change.

F. If changes occur, check the A/C arm shaft for looseness. If not free, replace the A/C arm and adjust the audio/ control head as in 3-3.

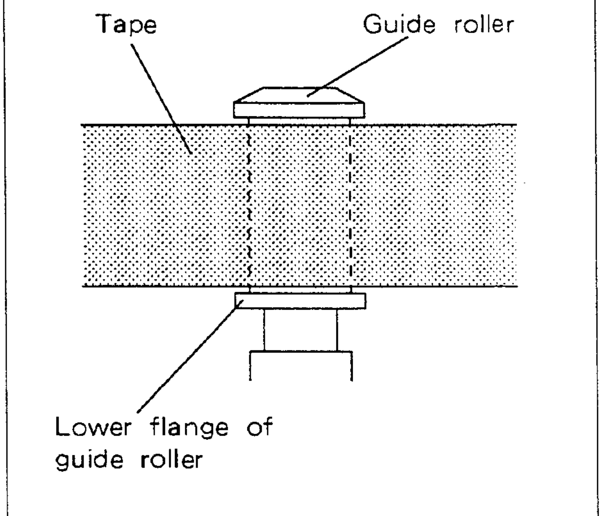


Fig. 3-2-6

3-2-7 Replacement of Tape Guides

A. Identify the Item Number of the tape guide to be replaced. This is done by observing the marking present on the die-cast portion of the tape guide base, and comparing that marking to Fig. 3-2-7.

B. If the Item Number of the tape guide presently installed is a '2', replace the guide with an Item Number '1' guide.(Part No.635B059O10)

C. If the Item Number of the present tape guide is a '1', replace the guide with an Item Number '3' guide.

D. If the Item Number of the present tape guide is a '3', replace the guide with other Item Number '3' guide.

E. Once the tape guide is replaced, resume alignment starting with 3-2-1.

3-2-8 Check 2: Tape Running Condition on Guide Rollers

A. Set the VCR to the playback mode.

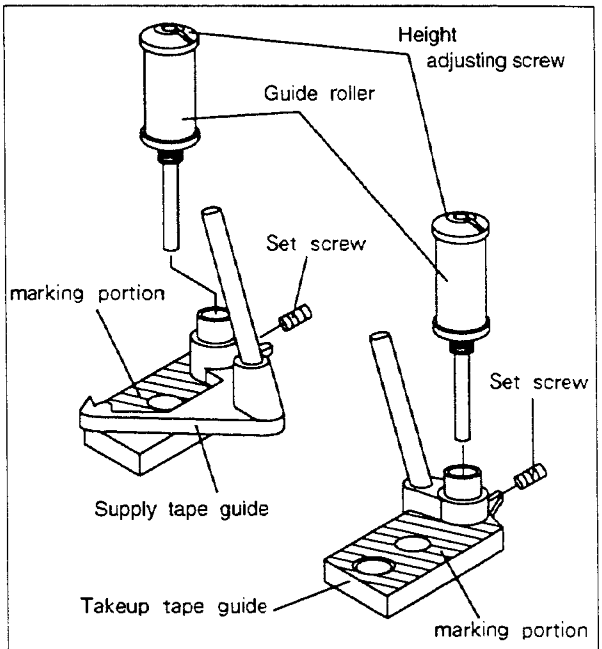
B. Press the head of the supply guide roller and the take up guide roller lightly, and release the roller. Check if the FM waveform is quickly restored to the previous level.

C. If the FM waveform is not restored quickly, replace the tape guide as in 3-2-7.

D. If the supply tape guide is replaced, check the guide roller as in 3-2-1.

If the takeup tape guide is replaced, check the guide roller as in 3-2-1, and check the FM waveform as flatness as in 3-2-5

E. If satisfactory, tighten the set screw of the guide roller on the supply side and the take up side.



Identification of Tape Guide Item Number
(Example ; Parts No. 635B059O$\boxed{1}$0)
Item No.

Item No.1	No marking
Item No.2	Marked with black magic marker
Item No.3	Marked with red magic marker

※ The marking point is marked in the oblique line portion shown in figure above.

Fig. 3-2-7

3-3 Adjustment of Audio/Control Head

3-3-1 Adjustment of A/C Head Slant (Refer to Fig. 3-3-1.)

A. Play back a blank tape.

B. Turn the screw C slowly clockwise tc crease the bottom edge of the tape slightly by the lower flange of the takeup guide pole.

C. Turn the screw C slowly counterclockwise to eliminate the crease of the bottom edge of the tape.

D. Turn the screw C slowly clockwise again and stop turning just before the tape is creased.

3-3-2 Adjustment of A/C Head Azimuth and Height(Refer to Fig. 3-3-1~3-3-3.)

A. Using stair step signal of alignment tape,connect an oscilloscope to the audio output terminal and set the VCR to the playback mode.

B. Turn the nut A(height adjusting)and the screw B(azimuth adjusting)so that the audio output level is maximum.

C. Turn the A/C head counterclockwise and release it to make certain that the audio output level does not change.

D. If the level changes, check if the A/C arm shaft is loose. If not free, replace the A/C arm and adjust the slant of the A/C head as in 3-3-1 and the azimuth and height of the A/C head from beginning.

E. Apply a force lightly to the A/C head shaft in the direction of A and A' of the arrow shown in Fig. 3-3-3, to make certain that the audio output level remains at maximum level and does not change.

F. If the level changes, turn the nut A(height adjusting)so that the audio output level is maximum. Apply a force lightly to the A/C head shaft in the direction of B and B' of the arrow shown in Fig. 3-3-3 and adjust so that the sound output level is maximum.

G. Check the sound output level in the playback mode to make sure that the fluctuation of the level is less than 2dBp-p.

H. If the fluctuation exceeds 2dBp-p, adjust the slant of the A/C head and the azimuth and height of the head.

I. If this is still not satisfactory, replace the takeup tape guide as outlined in 3-3-3.
Note:
In this case the tape guide should be replaced with a guide which has less inclination.

J. On completion of the above adjustment,adjust phase as in 3-4.

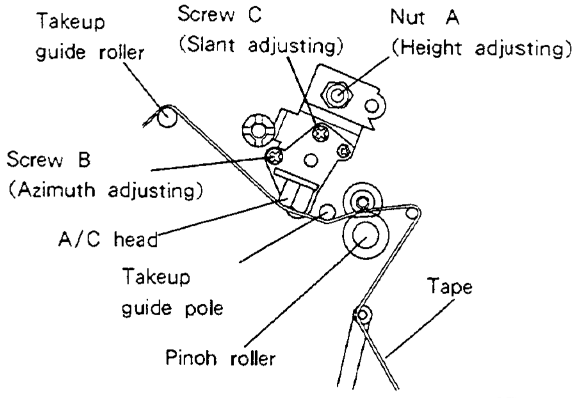


Fig. 3-3-1 FOD059

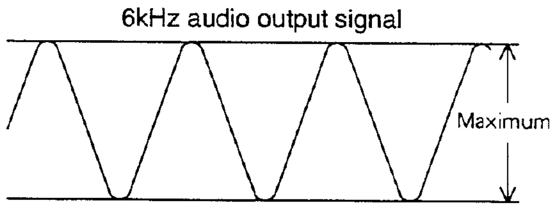


Fig. 3-3-2 FOD060

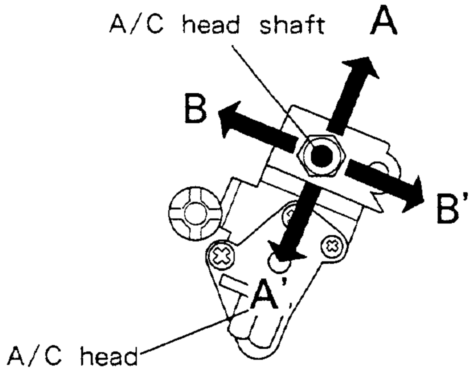


Fig. 3-3-3 FOD061

Identification of Tape Guide Item Number
(Example ; Parts No. 635B0600$\boxed{1}$0)
Item No.

Item No.1	No marking
Item No.2	Marked with black magic marker
Item No.3	Marked with red magic marker

※The marking points are marked in the tops of the Takeup and Supply tape guides.(Refer to Fig. 3－2－7)

Fig.3-3-4

3-3-3 Replacement of Tape Guides

A. Identify the Item Number of the Tape Guide to be replaced. This is done by observing the marking present on the die-cast portion of the Tape Guide base, and comparing that marking to Fig. 3-3-4.

B. If the Item Number of the tape guide presently installed is a '3', replace the guide with an Item Number '1' guide.

C. If the Item Number of the present tape guide is a '1', replace the guide with an Item Number '2' guide.

D. If the Item Number of the present tape guide is a '2', replace the guide with other Item Number '2' guide.

E. Once the tape guide is replaced, resume alignment starting with 3-2-1.

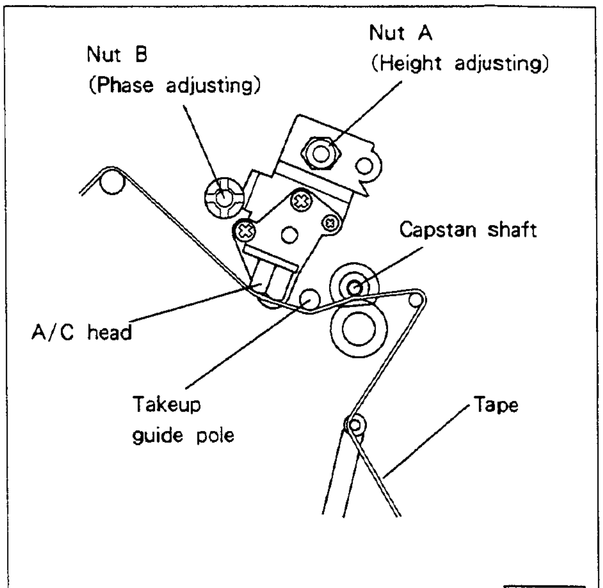


Fig. 3-4 FOD062

3-4 Phase Adjustment(Refer to Fig. 3-4.)

A. Set the VCR to the playback mode.

B. Preset tracking.

C. Turn the phase adjusting nuts to make the amplitude of the FM waveform maximum.

Note:
Do not turn the phase adjusting nut more than one turn in either direction.

D. Turn the A/C head counterclockwise and return to make sure that the amplitude of the FM waveform is the same as that before turning the head.

E. If the amplitude changes, check the A/C arm shaft if loose. If not free, replace the A/C arm and adjust the A/C head as in 3-3 and the phase as in this section from beginning.

F. Load and unload the tape several times to make certain that the amplitude of the FM waveform does not change.

3-5 Adjustment of Takeup Guide Arm Height (Refer to Fig. 3-5.)

A. Run a final portion of E-240 blank tape in the reverse search mode.

B. Adjust the height of the takeup guide pole by turning the height adjusting nut so that the tape shall not be creased at the upper and the lower flange portion of the take up guide pole.

Note:
Set the adjusting nut in the screwing-in direction.
Do not turn the nut more than one turn in either direction.

C. Eject the cassette tape and set to the reverse search mode again to make certain that the tape is not creased at the upper and the lower flange portion of the takeup guide pole.

D. Set to the playback mode and be sure that the tape is not creased at the upper and the lower flange portion of the takeup guide pole.

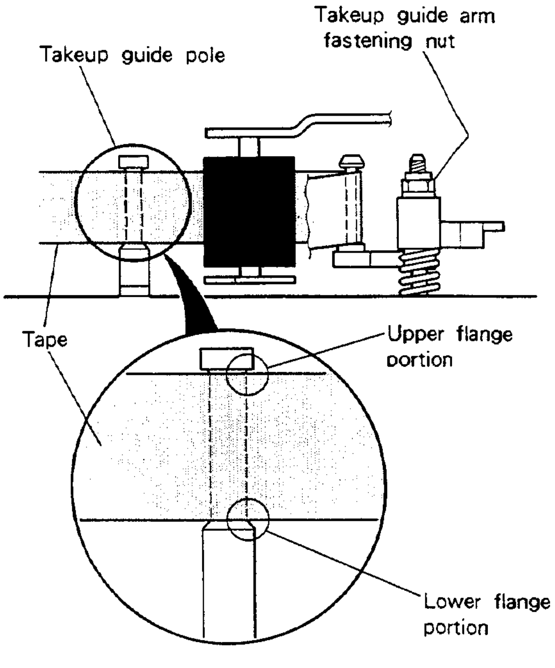


Fig. 3-5 FOD063

KEY TO ABBREVIATIONS

A/C : Audio/Control
ACC : Automatic Colour Control
A.E : Audio Erase
AFC : Automatic Frequency Control
AFT-D : Automatic Fine Tuning Door Switch
AGC : Automatic Gain Control
AL : After Loading
AMP : Amplifier
ANT : Antenna
A-PB : Audio-Playback
A-REC : Audio-Recording
ALC : Automatic Level Control

BPF : Band-Pass Filter
B/W : Black and White
BS : Band Switch

CASS : Cassette
CP : Capstan
CP-FO : Capstan-Frequency Generator
CP-F/R : Capstan-Forward/Reverse
CP-M : Capstan-Motor
CONV : Converter
CTL : Control
C-LAMP : Cassette Lamp
C-I LAMP : Cassette Indicator Lamp

DAL : Delay-After Loading
DEMOD : Demodulator
DET : Detector
DL : Delay Line
DL-REV : Delay Reverse
DL-FWD : Delay Forward
DOC : Drop Out Compensator

EF : Emitter Follower
EMPHA : Emphasis
EO : Equalizer
EE : Electronic-Electronic
ES : End Sensor

FE-H : Full Erase Head
FF : Flip Flop or Fast Forward
FG : Frequency generator
FL-SW : Front Loading Switch
FLM : Front Loading Motor
F/R-SW : FF/Rewind Switch

G : Ground

HE-1 : Hall Element-1
HE-2 : Hall Element-2
H-LED : Humidity-LED
H-SENS : Humidity-Sensor
HPF : High-Pass Filter

LIM : Limiter
LPF : Low-Pass Filter
LM : Loading Motor

MDA : Motor Drive Amplifier
MC : Mechanical Control
MIC : Microphone
MOD : Modulator

OPE : Operation
OSC : Oscillator

PB : Play Back
PG : Pulse Generator
P/R-SW : P.B/REC-Switch
PCB : Printed Circuit Board
PIC : Picture Control

REC : Recording
REF : Reference
RIS : Record Inhibit Switch
REW : Rewind
REG : Regulator
RS : Reverse Search

SENS : Sensor
SM : Supply Motor
S/P : Still/Pause
SS : Speed Search
STBY : Stand By
S & H : Sample & Hold
SYNC SEP : Sync Separator

TM : Take up Motor
T-REC : Timer-Recording
T.P : Test Point
TR : Transistor
TU-P : Tuner-Power

UL : Unloading

VS : Voltage Synthesizer
V.SYNC : Vertical Sync
VCO : Voltage Controlled Oscillator
VXO : Variable Crystal Oscillator

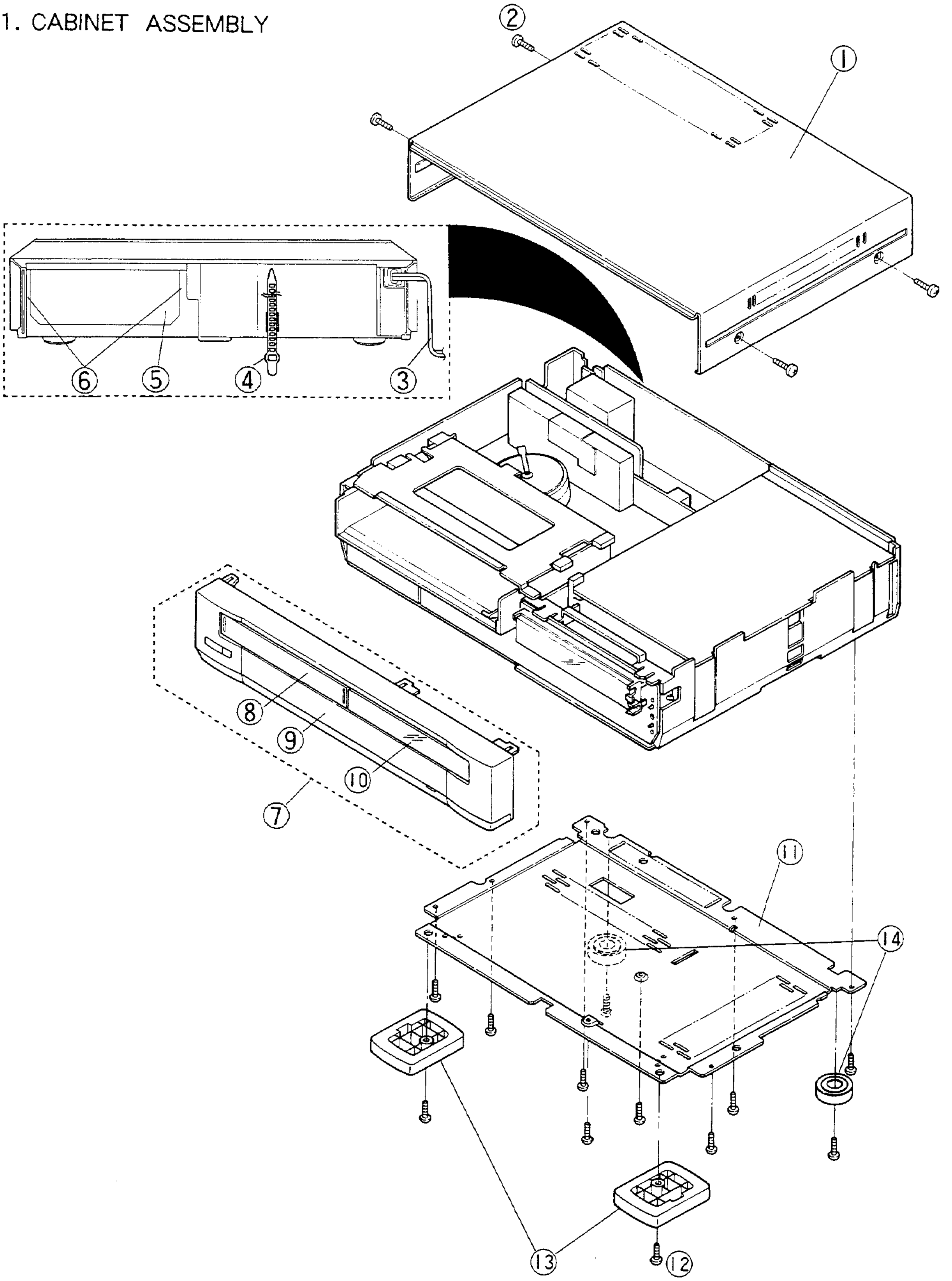
W/D : White/Dark

X'OSC : Crystal Oscillator

Y/C : Luminance/Chrominance

PARTS LIST

1. CABINET ASSEMBLY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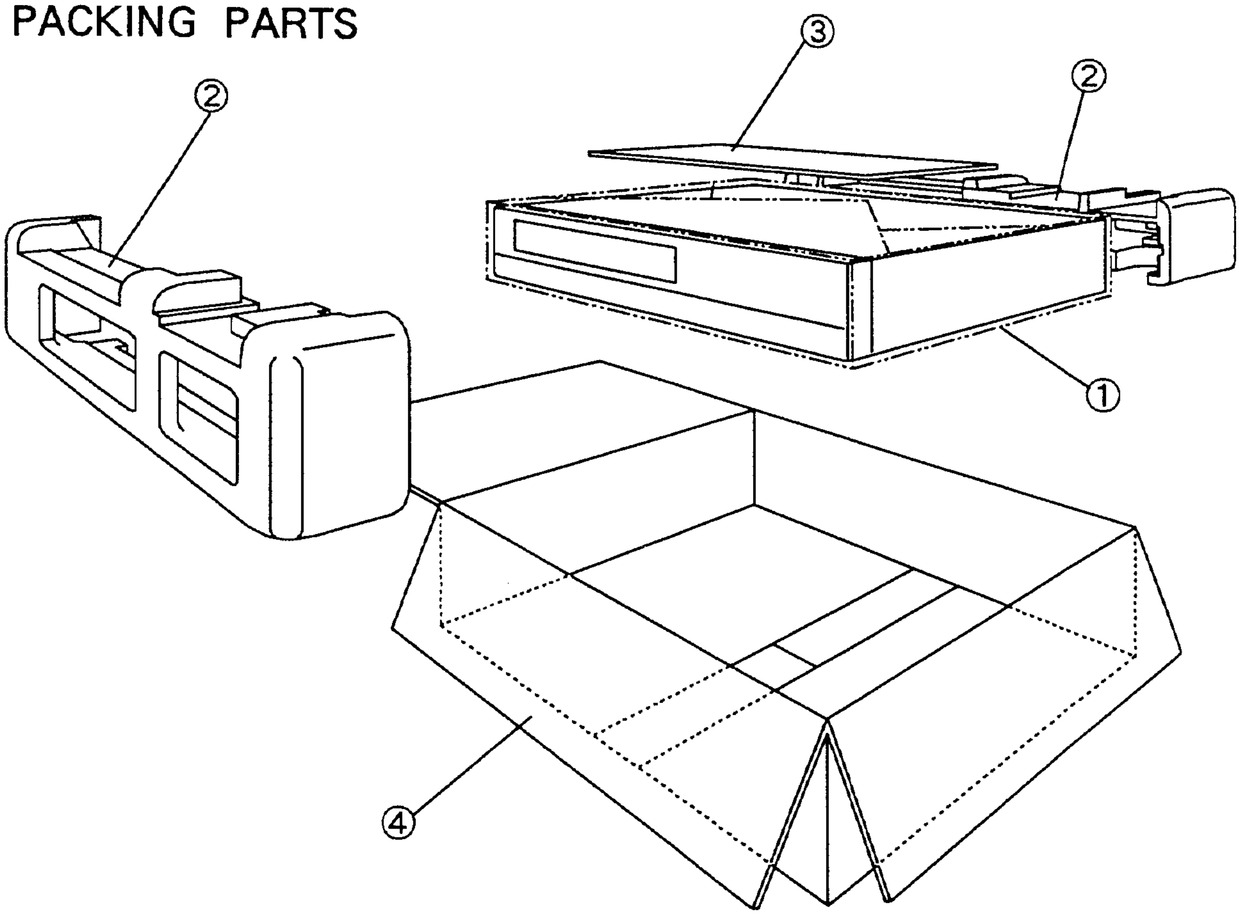
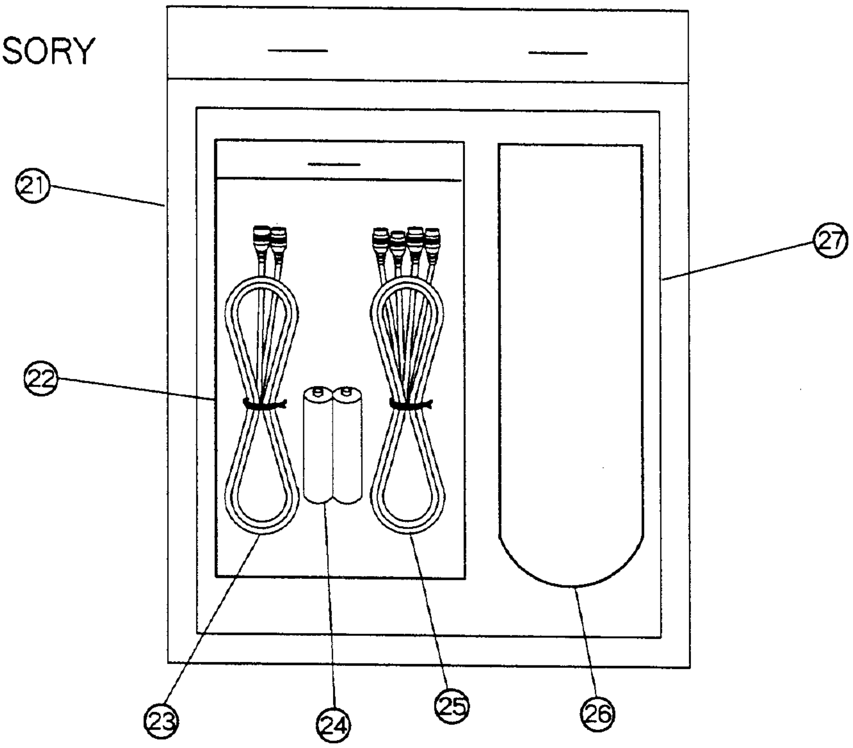
Note:
Broken AC power cord must be exchanged with a new original power cord.

ITEM NO.	PARTS NO.	PARTS NAME	DESCRIPTION
		CABINET ASSEMBLY	
1	968C020090	TOP COVER ASSY	
2	669D223080	SCREW	3X10
3	246C101020	AC POWER CORD	[B, IR]
3	246C101010	AC POWER CORD	[E, Y]
4	621C027010	CORD BAND	
5	761B170070	ANTENNA COVER	
6	669D359040	SCREW	3X12
7	701B261030	FRONT UNIT	[B, E, IR]
7	701B261020	FRONT UNIT	[Y]
8	702B855090	CASSETTE DOOR	
9	752C010030	DOOR PANEL	[B, E, IR]
9	752C010020	DOOR PANEL	[Y]
10	702B854010	TIMER PANEL	
11	590A267010	BOTTOM PANEL	
12	669D220030	SCREW	3X10 46LA005
13	771B080010	INSULATOR-F	
14	771C134010	INSULATOR-R	

2. PACKING PARTS



ACCESSORY



ITEM NO.	PARTS NO.	PARTS NAME	DESCRIPTION
PACKING PARTS			
1	831D190030	PACKING SHEET	800X800
2	803A319010	PACKING CUSHION	
3	----------	ACCESSORY	
4	802B394070	PACKING CASE	[B]
4	802B394080	PACKING CASE	[E]
4	802B394090	PACKING CASE	[IR]
4	802B394010	PACKING CASE	[Y]
	831D198020	PACKING BAG	FOR AC POWER CORD
ACCESSORY			
21	B31D181020	PACKING BAG	375X250X0.06
22	B31D110080	PACKING BAG	
23	242D231030	CABLE	1.5m
24	----------	BATTERY	
25	242C938010	PHONO CABLE (2PIN)	1.5m
26	939P480010	REMOTE HAND UNIT	
27	872C057060	INSTRUCTION BOOK	[B]
27	B72C059040	INSTRUCTION BOOK	[E]
27	B72C093040	INSTRUGTION BOOK	[IR]
27	872C057070	INSTRUCTION BOOK	[Y]

3. ELECTRICAL PARTS

INTEGRATED CIRCUITS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
IC101	272P863010	IC	TDA9800
IC102	266P192010	IC	LA7910 [E, IR, Y]
IC201	272P221020	IC	XRA7254S
IC2A0	272P701020	IC	LA7393A
IC2A1	272P702010	IC	LC8992
IC2A3	272P265010	IC	BA7021
IC2A4	272P325020	IC	NJM2235S
IC310	272P234010	IC	LA7295
IC3A0	272P845010	IC	AN3316K
IC3000	272P844020	IC	AN3976NF
IC3001	266P419010	IC	M5223P
IC4A0	274P159020	IC	BU2835AS
IC4A1	272P079010	IC	NJM2902M
IC4A2	272P235010	IC	TA7291S
IC501	274P163010	IC	M35010-051SP
IC5A0	274P180010	IC	M37424M8-321SP
IC5A2	272P079010	IC	NJM2902M
IC5A3	263P611010	IC	MC14011BF
IC651	272P494010	IC	M52063SP [IR]
IC750	272P551010	IC	IC IR3P72 [Y]
IC7A0	272P666010	IC	TB1210F [B, E, IR]
IC7A1	266P419010	IC	M5223P [B, E, IR]
IC7A2	272P284010	IC	TD6710AN [B, E, IR]
IC7A3	272P667010	IC	AFS816F14000A1 [B, E, IR]
IC7A4	266P982010	IC	AN608P [B, E, IR]
IC7A5	266P982010	IC	AN608P [B, E, IR]
IC7A6	266P982010	IC	AN608P [B, E, IR]
IC7Y1	272P025010	IC	M51366SP [B, E, IR]
IC8A0	274P186010	IC	μPD752176F-608-3BE
IC8A1	283P593010	IC	CAT35C104P
IC8A2	266P010020	IC	μPC574J-K
IC9A0	272P237D10	IC	LA6324N

TRANSISTORS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
0 02	260P802020	CHIP TRANSISTOR	2SA 1235-F [E]
0 101	260P805030	CHIP TRANSISTOR	2SC3053-D
0 102	260P802020	CHIP TRANSISTOR	2SA 1235-F
0 103	260P805030	CHIP TRANSISTOR	2SC3053-D [Y]
0 116	260P807010	CHIP TRANSISTCR	DTC124K
0 1N1	260P321010	TRANSISTQR	2SC1687 [B, E, IR]
0 208	260P817030	CHIP TRANSISTOR	2SA1037K
0 210	260P807010	CHIP TRANSISTOR	DTC124K
0 290	260P807010	CHIP TRANSISTOR	DTC124K
0 291	260P807010	CHIP TRANSISTOR	DTC124K
0 292	260P807Q10	CHIP TRANSISTOR	DTC124K
0 2B1	260P805030	CHIP TRANSISTOR	2SC3053-D
0 2B2	260P804020	CHIP TRANSISTOR	2SC3052-F
0 2B5	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 2B6	260P805030	CHIP TRANSISTOR	2SC3050-D
Q 2B8	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2B9	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2C3	260P80601Q	CHIP TRANSISTOR	DTA124EK
Q 2C4	260P806010	CHIP TRANSISTQR	DTA124EK
Q 2C5	260P807010	CHIP TRANSISTOR	DTC124K

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
Q 2C7	260P805030	CHIP TRANSISTOR	2SC3053-D
0 2C8	260P805030	CHIP TRANSISTOR	2SC3053-D
0 2C9	260P605030	CHIP TRANSISTDR	2SC3053-D [IR]
Q 2D0	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2D1	260P806010	CHIP TRANSISTOR	DTA124EK [IR]
Q 2D4	260P802020	CHIP TRANSISTOR	2SA 1235-F
Q 2D5	26GP805030	CHIP TRANSISTOR	2SC3053-D
Q 2D6	260P255040	TRANSISTOR	2SA950-Y
Q 2E1	260P562040	TRANSISTOR	2SA952-K
Q 2E3	260P802020	CHIP TRANSISTOR	2SA 1235-F
Q 2P0	260P802020	CHIP TRANSISTOR	2SA 1235-F
Q 2P1	260P805030	CHIP TRANSISTOR	2SC3053-D
0 2P2	260P805030	CHIP TRANSISTOR	2SC3063-D
Q 2P3	260P806010	CHIP TRANSISTOR	DTA124EK [IR]
Q 2P4	260P805030	CHIP TRANSISTOR	2SC3053-D [IR]
Q 2P5	260P807010	CHIP TRANSISTOR	DTC124K
Q 2P6	260P606010	CHIP TRANSISTDR	DTA124EK
0 2P7	260P607010	CHIP TRANSISTDR	DTC124K
Q 2R2	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2S1	260P806010	CHIP TRANSISTDR	DTA124EK
Q 2S3	260P807010	CHIP TRANSISTOR	DTC124K
Q 2S4	260P807010	CHIP TRANSISTOR	DTC124K
Q 310	260P629060	TRANSISTOR	2SC3331-S, T, U
Q 3000	260P522010	TRANSISTOR	2SC3068
Q 3001	260P522010	TRANSISTOR	2SC3068
Q 3002	260P603010	TRANSISTOR	DTA124ES/UN4112
Q 3003	260P632010	TRANSISTOR	DTC124ES
0 3006	260P603010	TRANSISTOR	DTA124ES/UN4112
Q 3007	260P632010	TRANSISTOR	DTC124ES
0 3020	260P559040	TRANSISTOR	2SC1740S-R, S
Q 4A1	260P459010	TRANSISTOR	2SK381-A
Q 4A3	260P559060	TRANSISTOR	2SC1740S-S, E
Q 4A4	260P560040	TRANSISTOR	2SA933S-S
Q 4A5	260P806010	CHIP TRANSISTOR	DTA124EK
Q 4A7	260P802020	CHIP TRANSISTDR	2SA 1235-F
Q 4A8	260P802020	CHIP TRANSISTDR	2SA 1235-F
Q 4A9	260P806010	CHIP TRANSISTOR	DTA124EK
Q 460	260P804020	CHIP TRANSISTOR	2SC3052-F
0 4S0	260P802020	CHIP TRANSISTOR	2SA 1235-F
Q 501	260P802020	CHIP TRANSISTOR	2SA 1235-F
0 502	260P807010	CHIP TRANSISTOR	DTC124K
0 503	260P802020	CHIP TRANSISTOR	2SA 1235-F
0 504	260P559060	TRANSISTOR	2SC1740S-S, E
Q 506	260P802020	CHIP TRANSISTOR	2SA 1235-F [E, Y]
Q 508	260P807010	CHIP TRANSISTDR	DTC124K
Q 571	268P014020	PHOTO TRANSISTOR	PN205L-(NC)
Q 572	268P014020	PHOTO TRANSISTOR	PN205L-(NC)
Q 573	268P044010	PHOTO INTERRUPTER	ON2270-(LZ).MI
Q 574	268P044010	PHOTO INTERRUPTER	ON2270-(LZ).MI
Q 575	268P045010	PHOTO INTERRUPTER	GP1L52V
Q 501	260P455010	TRANSISTOR	DTC124EF
Q 582	260P455010	TRANSISTOR	DTC124EF
Q 583	260P455010	TRANSISTOR	DTC124EF
Q 5A0	260P804020	CHIP TRANSISTDR	2SC3052-F
Q 5A1	260P802020	CHIP TRANSISTDR	2SA 1235-F

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
0 5A2	260P802020	CHIP TRANSISTOR	2SA 1235-F
0 5A3	260P804020	CHIP TRANSISTOR	2SC3052-F
0 5A4	260P804020	CHIP TRANSISTOR	2SC3052-F
0 5A5	260P804020	CHIP TRANSISTQR	2SC3052-F
Q 5A6	260P802020	CHIP TRANSISTOR	2SA 1235-F
0 5A7	260P555060	TRANSISTOR	2SC1740S-S, E
0 5A8	260P802020	CHIP TRANSISTOR	2SA 1235-F
0 5A9	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 5B0	260P585050	TRANSISTOR	2SD892-T, U
0 5B1	260P585030	TRANSISTOR	2SD1682-T, U
Q 5B2	260P807010	CHIP TRANSISTOR	DTC124K
Q 5B3	260P807010	CHIP TRANSISTOR	DTC124K
Q 5B4	260P807010	CHIP TRANSISTOR	DTC124K
Q 5B5	260P806010	CHIP TRANSISTOR	DTA124EK
Q 5B7	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 5C0	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 5C3	260P807010	CHIP TRANSISTOR	DTC124K
Q 5D1	260P807010	CHIP TRANSISTOR	DTC124K
Q 5G0	260P802020	CHIP TRANSISTOR	2SA 1235-F
Q 5G1	260P802020	CHIP TRANSISTOR	2SA 1235-F
Q 5G2	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 5G3	260P807010	CHIP TRANSISTQR	DTC124K
Q 5G4	260P807010	CHIP TRANSISTQR	DTC124K
0 5G5	260P807010	CHIP TRANSISTQR	DTC124K
Q 5G6	260P807010	CHIP TRANSISTQR	DTC124K
Q 5G7	260P802020	CHIP TRANSISTQR	2SA 1235-F
Q 5G8	260P802020	CHIP TRANSISTQR	2SA 1235-F
Q 509	260P802020	CHIP TRANSISTQR	2SA 1235-F
0 5H0	260P804020	CHIP TRANSISTQR	2SC3052-F
0 5H2	260P8Q4020	CHIP TRANSISTQR	2SC3052-F
Q 5H4	280P807010	CHIP TRANSISTQR	DTC124K
Q 5J0	260P804020	CHIP TRANSISTQR	2SC3052-F
Q 5J1	280P8Q4020	CHIP TRANSISTQR	25C3052-F
Q 5J2	260PB04020	CHIP TRANSISTOR	25C3052-F [E]
Q 5J3	260P804020	CHIP TRANSISTOR	25C3052-F
Q 5J4	260P807010	CHIP TRANSISTOR	DTC124K
Q 5J5	260P807010	CHIP TRANSISTOR	DTC124K
Q 5J6	260P804020	CHIP TRANSISTOR	2SC3052-F
Q 5J7	260P807010	CHIP TRANSISTOR	DTC124K
Q 750	260P356010	TRANSISTOR	2SC1006 [Y]
Q 751	260P543010	TRANSISTOR	JC501-P, 0 [Y]
Q 752	260P544010	TRANSISTOR	JA101-P, 0 [Y]
Q 7A0	260P522D10	TRANSISTOR	2SC3063 [B, E, IR]
Q 7A1	260P522010	TRANSISTOR	2SC3063 [B, E, IR]
Q 7A2	260P803010	TRANSISTOR	DTA124ES/UN4112 [8, E, IR]
0 7A3	260P543010	TRANSISTOR	JC501-P, 0 [B, E, IR]
0 7A5	260P603010	TRANSISTOR	DTA124ES/UN4112 [B, E, IR]
0 7Y2	260P355C10	TRANSISTOR	2SC1808 [B, E, IR]
Q 7Y4	260P544010	TRANSISTOR	JA101-P, Q [B, E, IR]
Q BA5	260P544010	TRANSISTOR	JA101-P, Q
Q BA8	280P559060	TRANSISTOR	2SC1740S-S, E
Q 8P0	280P544010	TRANSISTOR	JA101-P, Q
Q 8P1	260P544010	TRANSISTOR	JA101-P, Q
0 8P2	260P544010	TRANSISTQR	JA101-P, Q
0 8P4	260P632010	TRANSISTQR	DTC124ES
Q 901	260P560010	TRANSISTQR	2SA933S-R, S
0 902	260P628060	TRANSISTQR	2SA1619A-Q, R, S
0 903	260P560030	TRANSISTQR	2SA933S
Q 971	260P630010	TRANSISTQR	2SD2012
0 9A1	260P630010	TRANSISTQR	2SD2012
Q 9A2	260P630010	TRANSISTQR	2SD2012
0 9A3	280P630010	TRANSISTQR	2SD2012
0 9A4	260P613010	TRANSISTQR	2SC4208A

DIODES

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
D 101	264P625010	DIODE	BAT86
D 202	264P568010	DIQDE	1SS252
D 2A3	264P568010	DIODE	1SS252
D 2A6	264P568010	DIODE	1SS252 [E, Y]
D 2A8	264P568010	DIDDE	1SS252
D 2A9	264P568010	DIODE	1SS252
D 260	264P568010	DIODE	1SS252
D 2D0	264P568010	DIODE	1SS252
D 2S0	264P568010	DIODE	1SS252
D 2S1	264P568010	DIODE	1SS252
D 3000	264P568010	DIODE	1SS252
D 3001	264P568010	DIQDE	1SS252
D 3002	264P568010	DIODE	1SS252
D 3003	264P568010	DIODE	1SS252
D 3005	264P568010	DIODE	1SS252
D 3006	264P568010	DIODE	1SS252
D 3007	264P568010	DIODE	1SS252
D 300B	264P568010	DIODE	1SS252
D 3020	264P568010	DIODE	1SS252
D 4A0	264P568010	DIODE	1SS252
D 4A6	264P568010	DIODE	1SS252
D 501	264P568010	DIQDE	1SS252
D 570	254P307020	LIGHT EMITTING DIQDE	GL-451
D 571	264P515010	DIODE	MA165
0 5A0	264P568010	DIODE	1SS252
0 5A1	264P568010	DIODE	1SS252
D 5A3	264P568010	DIODE	1SS252
D 5A5	264P342070	DIODE	HZ4C2
D 5A6	264P568010	DIODE	1SS252
D 5A7	264P508020	DIODE	EM01Z
D 5A6	264P592010	DIODE	HZ16-2L
D 5B0	264P568010	DIODE	1SS252
D 5B1	264P568010	DIODE	1SS252
D 562	264P568010	DIODE	1SS252
D 5B4	264P808010	CHIP DIQDE	DAN202K
D 5B7	264P568010	DIODE	1SS252
D 5B8	264P568010	DIODE	1SS252
D 5B9	264P452030	DIODE	HZ5C3
D 5C0	264P568010	DIODE	1SS252
D 5C1	264P5G8010	DIODE	1SS252
D 5C3	264P808010	CHIP DIODE	DAN202K
D 5C5	264P568010	DIODE	1SS252
D 5C6	264P568010	DIODE	1SS252

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	
D 5C8	264P808010	CHIP DIODE	DAN202K	
D 5D0	264P588010	DIODE	1SS252	
D 5H0	264P808010	CHIP DIODE	DAN202K	
D 5H2	264P586010	DIODE	1SS252	
D 5J0	264P566010	DIODE	1SS252	
D 5J1	264P483020	0IODE	EOA02-08C/RD8. 2EB2	
D 701	264P621010	LIGHT EMITTING DIODE	SEL2210R TP2	
D 750	264P568010	DIODE	1SS252	[Y]
D 751	264P568010	DIODE	1SS252	[Y]
D 752	264P568010	DIODE	1SS252	[Y]
D 7A0	264P588010	DIODE	1SS252	[8, E, IR]
D 7A1	264P568010	DIODE	1SS252	[8, E, IR]
D 7A3	264P568010	DIODE	1SS252	[B, E, IR]
D 7A4	264P568010	DIODE	1SS252	[B, E, IR]
D 7A5	264P5G8010	DIODE	1SS252	[B, E, IR]
D 7A6	264P568010	DIODE	1SS252	[B, E, IR]
D 7A8	264P566010	DIODE	1SS252	[B, E, IR]
D 7A9	264P566010	DIODE	1SS252	[8, E, IR]
D 7B0	264P568010	DIODE	1SS252	[8, E, IR]
D 7B1	264P568010	DIODE	1SS252	[8, E, IR]
D 8A3	264P588010	DIODE	1SS252	
D 8A4	264P568010	DIODE	1SS252	
D 8A5	264P568010	DIODE	1SS252	
D 8A6	264P568010	DIODE	1SS252	
D 8A7	264P568010	DIODE	1SS252	
D 8A8	264P568010	DIODE	1SS252	
D BB0	264P568010	DIODE	1SS252	
D BB1	264P568010	DIODE	1SS252	
D 8B2	264P568010	DIODE	1SS252	
D 8B3	264P568010	DIODE	1SS252	
D 8C0	264P568010	DIODE	1SS252	
D 8J0	264P566010	DIODE	1SS252	[B, IR]
D 8J4	264P568010	DIODE	1SS252	[B]
D 8J5	264P568010	DIODE	1SS252	[E]
D 8J6	264P568010	DIODE	1SS252	
D 8J9	264P563010	DIODE	1SS252	[Y]
D 8Z0	264P501040	DIODE	HZ3ALL	
D 8Z1	264P461080	DIODE	EOA02-06E/RD6. 2EB3	
D 8Z2	264P193080	DIODE	MZ309B2/HZ9024	
D 901	264P430030	DIODE	DSA3A1 15M FORMING	
D 902	264P430030	DIODE	DSA3A1 15M FORMING	
D 903	264P43C030	DIODE	DSA3A1 15M FORMING	
D 904	264P430030	DIODE	DSA3A1 15M FORMING	
0 905	264P430030	DIODE	DSA3A1 15M FORMING	
D 906	264P430030	DIODE	DSA3A1 15M FORMING	
D 907	284P430030	DIODE	DSA3A1 15M FORMING	
D 908	284P430030	DIODE	DSA3A1 15M FORMING	
0 913	264P500020	DIODE	EM01Z	
D 914	264P500020	DIODE	EM01Z	
D 915	284P566010	0IODE	1SS252	
D 916	264P566010	DIODE	1SS252	
D 917	264P104040	DIODE	HZ30-2	
D 9A0	264P566010	DIODE	1SS252	

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	

FILTERS

8PF7A0	409P453010	BAND PASS FILTER		[B, IR]
BPF7A0	409P453020	BAND PASS FILTER	2080QDAF	[E]
CF101	296P024040	CERAMIC TRAP	TPS6. 0MD	[B, IR]
CF101	296P076010	CERAMIC TRAP		[E]
CF101	296P104010	CERAMIC TRAP	EFC-S3F01W3A	[Y]
CF151	296P014030	CERAMIC FILTER	SFE-8. 0MHz	[B, IR]
CF151	296P014090	CERAMIC FILTER	SFE-5. 5MC2	[E, Y]
CF5A0	299P116010	CERAMIC RESONATOR	K8R-4. 0KES	
CF750	296P071020	CERAMIC FILTER		[Y]
CF751	296P071010	CERAMIC FILTER		[Y]
CF752	29GP116010	CERAMIC FILTER		[Y]
SF101	296P119040	SAW FILTER	SAF39. 5MZG81Z	[B, IR]
SF101	296P119030	SAW FILTER		[E]
SF101	296P116010	SAW FILTER		[Y]
SF7Y1	296P112020	SAW FILTER	SAF32. 9MDE70Z	[B, IR]
SF7Y1	296P112010	SAW FILTER	SAF33. 0MDA70Z	[E]

DELAY LINES

DL2A0	337P081010	DELAY LINE		
DL2A1	337P183010	DELAY LINE	CF706	[IR]

COILS

L 11	325C111030	PEAKING COIL	10 μ H-K	
L 103	323P175090	VIF COIL	AFT 38. 9/39. 5MHz	
L 105	411P011010	BEADS FERRITE	ZBF503S-P	
L 107	325C176050	PEAKING COIL	2. 2 μ H-K SHIELD	
L 108	325C166030	PEAKING COIL	10 μ H-J	[B, E]
L 108	325C166050	PEAKING COIL	15 μ H-J	[IR]
L 108	325C166000	PEAKING COIL	5. 6 μ H-J	[Y]
L 109	325C166060	PEAKING COIL	18 μ H-J	
L 113	325C165020	PEAKING COIL	1. 2 μ H-J	[B]
L 113	325C165030	PEAKING COIL	1. 5 μ H-J	[E, IR, Y]
L 201	325C122050	PEAKING COIL	100 μ H-K	
L 206	325C166070	PEAKING COIL	22 μ H-J	
L 210	325C166070	PEAKING COIL	22 μ H-J	
L 211	325C166000	PEAKING COIL	5. 8 μ H-J	
L 213	325C167050	PEAKING COIL	100 μ H-J	
L 219	325C167040	PEAKING COIL	8Z μ H-J	
L 220	325C167070	PEAKING COIL	150 μ H-J	
L 2A0	325C122050	PEAKING COIL	100 μ H-K	
L 2A8	325C166060	PEAKING COIL	18 μ H-J	
L 2A9	325C167080	PEAKING COIL	180 μ H-J	
L 2B0	325C156090	PEAKING COIL	33 μ H-J	
L 2B1	325C156060	PEAKING COIL	18 μ H-J	
L 2B2	325C186010	PEAKING COIL	330 μ H-J	
L 2B4	325C165070	PEAKINO COIL	3. 3 μ H-J	
L 2B5	325C166020	PEAKINO COIL	8. 2 μ H-J	
L 2B6	325C166050	PEAKING COIL	15 μ H-J	[IR]
L 2B7	325C166050	PEAKING COIL	15 μ H-J	[IR]
L 2B8	321C112050	RF COIL	100 μ H-K	
L 2B9	321C112050	RF COIL	100 μ H-K	
L 2C0	325C122050	PEAKING COIL	100 μ H-K	
L 2C1	325C187010	PEAKING COIL	47 μ H-J	

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	
L 2C2	325C166090	PEAKING COIL	33 μ H-J	
L 2C3	325C122050	PEAKING COIL	100 μ H-K	
L 2C6	325C121030	PEAKING COIL	10 μ H-K	[E, Y]
L 2P1	325C166090	PEAKING COIL	33 μ H-J	
L 2P5	325C166090	PEAKING COIL	33 μ H-J	
L 2P6	325C167010	PEAKING COIL	47 μ H-J	
L 310	321C113070	RF COIL	1000 μ H-K	
L 311	321C114080	RF COIL	8200 μ H-J	
L 313	321C112050	RF COIL	100 μ H-K	
L 3A0	325C262050	PEAKING COIL	100 μ H-K	
L 3000	325C267050	PEAKING COIL	100 μ H-J	
L 3001	325C267050	PEAKING COIL	100 μ H-J	
L 4A0	325C262000	PEAKING COIL	39 μ H-K	
L 4G0	325C108030	PEAKING COIL	470 μ H-J	
L 501	325C122050	PEAKIN6 COIL	100 μ H-K	
L 502	325C166050	PEAKINO COIL	15 μ H-J	
L 503	325C262050	PEAKING COIL	100 μ H-K	
L 507	325C266080	PEAKING COIL	27 μ H-J	[E, Y]
L 570	299P124010	LATCH MAGNET		
L 5A0	325C262050	PEAKIHG COIL	100 μ H-K	
L 5A1	325C124080	PEAKING COIL	0. 56 μ H-M	
L 5A2	325C124050	PEAKING COIL	0. 33 μ H-M	
L 5A3	325C124050	PEAKING COIL	0. 33 μ H-M	
L 5A5	325C167040	PEAKING COIL	B2 μ H-J	
L 651	325C122050	PEAKING COIL	100 μ H-K	[IR]
L 750	325C267050	PEAKING COIL	100 μ H-J	[B, E, IR]
L 750	325C107050	PEAKING COIL	100 μ H-J	[Y]
L 753	325C1G6090	PEAKING COIL	33 μ H-J	[Y]
L 754	325C166090	PEAKING COIL	33 μ H-J	[Y]
L 7A0	325C167050	PEAKING COIL	100 μ H-J	[B, E, IR]
L 7A1	325C166040	PEAKING COIL	12 μ H-J	[B, E, IR]
L 7A2	325C166040	PEAKING COIL	12 μ H-J	[B, E, IR]
L 7A3	325C106090	PEAKING COIL	33 μ H-J	[B, E, IR]
L 7A4	411P001070	FERRITE LEAD	BF50T	[B, E, IR]
L 7A5	325C107050	PEAKING COIL	100 μ H-J	[B, E, IR]
L 7A6	409P402090	EMI FILTER	DSS306-93FZ103N100	[B, E, IR]
L 7A7	325C107010	PEAKING COIL	47 μ H-J	[8, E, IR]
L 7A8	325C120030	PEAKING COIL	1. 5 μ H-M	[E]
L 7Y1	325C165040	PEAKING COIL	1. 8 μ H-J	[B, E, IR]
L 7Y2	325C162030	PEAKING COIL	68 μ H-K	[B, E, IR]
L 7Y3	323P184010	VIF COIL		[B, E, IR]
L 7Y4	325C166030	PEAKINC COIL	10 μ H-J	[6, E, IR]
LC751	327P077010	SIF COIL	5. 74MHz	[Y]
LC752	327P076010	SIF COIL	5. 5MHz	[Y]

TRANSFORMERS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	
T 310	409P423010	AUDIO BIAS OSC	705720044D	
T 901	350P577020	POWER	PRI 240V	[8]
T 901	350P577010	POWER	PRI 220V	[E, IR, Y]

VARIABLE RESISTORS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	
VR101	127C080090	VR-SEMIFIXED	1/5W B20kΩ-M	
VR103	127C090040	VR-SEMIFIXED	1/5W B1kΩ-M	
VR202	127C290040	VR-SEMIFIXED	1/10W B1kΩ-H	
VR203	127C290080	VR-SEMIFIXED	1/10W B10kΩ-N	
VR280	120C380080	VR-PCB	1/20W B3kΩ-20TM CS	
VR2A0	127C080090	VR-SEMIFIXED	1/5W B20kΩ-M	
VR2A1	127C090090	VR-SEMIFIXED	1/5W B20kΩ-M	
VR2A2	127C080080	VR-SEMIFIXED	1/5W B10kΩ-M	
VR2A3	127C080050	VR-SEMIFIXED	1/5W B2kΩ-M	
VR2A5	127C080090	VR-SEMIFIXED	1/5W B20kΩ-M	
VR310	127C281020	VR-SEMIFIXED	1/10W B100kΩ-N	
VR311	127C280080	VR-SEMIFIXED	1/10W B10kΩ-N	
VR3000	127C081000	VR-SEMIFIXED	1/5W B30kΩ-M	
VR3001	127C081000	VR-SEMIFIXED	1/5W B30kΩ-M	
VR3002	127C090080	VR-SEMIFIXED	1/5W B10kΩ-M	
VR3003	127C090070	VR-SEMIFIXED	1/5W B5kΩ-M	
VR3004	127C090040	VR-SEMIFIXED	1/5W B1kΩ-M	
VR4A0	127C081020	VR-SEMIFIXED	1/5W B100kΩ-M	
VR652	127C080080	VR-SEMIFIXEO	1/5W B10kΩ-M	[IR]
VR750	127C080050	VR-SEMIFIXED	1/5W B2kΩ-M	[Y]
VR751	1270080080	VR-SEMIFIXED	1/5W B10kΩ-M	[Y]
VR752	127C081060	VR-SEMIFIXED	1/5W B1MΩ-M	[Y]
VR753	127C081050	VR-SEMIFIXED	1/10W B500kΩ-N	[Y]
VR754	127C081020	VR-SEMIFIXED	1/5W B100kΩ-M	[Y]
VR756	127C080090	VR-SEMIFIXED	1/5W B20kΩ-M	[Y]
VR7A0	127C091050	VR-SEMIFIXED	1/5W B500kΩ-M	[B, E, IR]

RESISTORS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	
R 01	103P403070	CHIP RESISTOR	1/10W 10kΩ-J	
R 03	103P404000	CHIP RESISTOR	1/10W 18kΩ-J	[B, IR, Y]
R 09	103P403070	CHIP RESISTOR	1/10W 10kΩ-J	
R 11	103P403070	CHIP RESISTOR	1/10W 10kΩ-J	[E, IR, Y]
R 12	103P403070	CHIP RESISTOR	1/10W 10kΩ-J	[E, IR, Y]
R 13	103P403070	CHIP RESISTOR	1/10W 10kΩ-J	[E, IR, Y]
R 14	103P403020	CHIP RESISTOR	1/10W 3. 9kΩ-J	[E, IR, Y]
R 18	103P403070	CHIP RESISTOR	1/10W 10kΩ-J	
R 19	103P475060	CHIP RESISTOR	1/10W 20kΩ-F	
R 101	103P472040	CHIP RESISTOR	1/10W 910Ω-F	[B, IR]
R 101	103P472030	CHIP RESISTOR	1/10W 820Ω-F	[E]
R 101	103P473040	CHIP RESISTOR	1/10W 2. 4kΩ-F	[Y]
R 103	103P402000	CHIP RESISTOR	1/10W 390Ω-J	
R 104	103P403050	CHIP RESISTOR	1/10W 6. 8kΩ-J	
R 108	103P404020	CHIP RESISTOR	1/10W 27kΩ-J	
R 109	103P404020	CHIP RESISTOR	1/10W 27kΩ-J	
R 113	103P472040	CHIP RESISTOR	1/10W 910Ω-F	[B, IR]
R 113	103P471060	CHIP RESISTOR	1/10W 430F	[E, Y]
R 115	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	
R 116	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	
R 117	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	
R 118	103P474050	CHIP RESISTOR	1/10W 6. 8kΩ-F	[B]
R 118	103P472070	CHIP RESISTOR	1/10W 1. 2kΩ-F	[E]
R 118	103P472020	CHIP RESISTOR	1/10W 750Ω-F	[IR]
R 118	103P473040	CHIP RESISTOR	1/10W 2. 4kΩ-F	[Y]
R 120	103P402090	CHIP RESISTOR	1/10W 2. 2kΩ-J	
R 121	103P402060	CHIP RESISTOR	1/10W 1. 2kΩ-J	
R 122	103P402030	CHIP RESISTOR	1/10W 680Ω-J	
R 123	103P472070	OHIP RESISTOR	1/10W 1. 2kΩ-F	[B]
R 123	103P471050	CHIP RESISTOR	1/10W 390Ω-F	[E]

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	
R 123	103P471080	CHIP RESISTOR	1/10W 510Ω-F	[IR]
R 123	103P471000	CHIP RESISTOR	1/10W 240Ω-F	[Y]
R 126	103P404050	CHIP RESISTOR	1/10W 47kΩ-J	[Y]
R 127	103P404050	CHIP RESISTOR	1/10W 47kΩ-J	[Y]
R 128	103P401090	CHIP RESISTOR	1/10W 330Ω-J	[Y]
R 129	103P401030	CHIP RESISTOR	1/10W 100Ω-J	[Y]
R 153	103P402020	CHIP RESISTOR	1/10W 560Ω-J	
R 160	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	
R 162	103P404000	CHIP RESISTOR	1/10W 18kΩ-J	
R 1J1	103P409050	CHIP RESISTOR	1/10W 0Ω	[IR, Y]
R 1J2	103P409050	CHIP RESISTOR	1/10W 0Ω	
R 1J3	103P409050	CHIP RESISTOR	1/10W 0Ω	
R 1J5	103P409050	CHIP RESISTOR	1/10W 0Ω	
R 1M0	103P409050	CHIP RESISTOR	1/10W 0Ω	
R 1N0	103P409050	CHIP RESISTOR	1/10W 0Ω	
R 1N1	103P404050	CHIP RESISTOR	1/10W 47kΩ-J	[8, E, IR]
R 1N2	103P404050	CHIP RESISTOR	1/10W 47kΩ-J	[8, E, IR]
R 1N3	103P401090	CHIP RESISTOR	1/10W 330Ω-J	[8, E, IR]
R 1N4	103P401030	CHIP RESISTOR	1/10W 100Ω-J	[8, E, IR]
R 1N5	103P409050	CHIP RESISTOR	1/10W 0Ω	
R 1N7	103P409050	CHIP RESISTOR	1/10W 0Ω	
R 1N8	103P409050	CHIP RESISTOR	1/10W 0Ω	
R 1N9	103P409050	CHIP RESISTOR	1/10W 0Ω	
R 203	103P409050	CHIP RESISTOR	1/10W 0Ω	
R 204	103P409050	CHIP RESISTOR	1/10W 0Ω	
R 205	103P409050	CHIP RESISTOR	1/10W 0Ω	
R 206	103P402060	CHIP RESISTOR (HEAD-AMP PCB ASSY)	1/10W 1.2kΩ-J	
R 206	103P409050	CHIP RESISTOR (Y/C PCB ASSY)	1/10W 0Ω	
R 207	103P402070	CHIP RESISTOR (HEAD-AMP PCB ASSY)	1/10W 1.5kΩ-J	
R 208	103P402000	CHIP RESISTOR (HEAD-AMP PCB ASSY)	1/10W 390Ω-J	
R 208	103P409050	CHIP RESISTOR (Y/C PCB ASSY)	1/10W 0Ω	
R 209	103P401030	CHIP RESISTOR (HEAD-AMP PCB ASSY)	1/10W 100Ω-J	
R 209	103P409050	CHIP RESISTOR (Y/C PCB ASSY)	1/10W 0Ω	
R 210	103P401020	CHIP RESISTOR (HEAD-AMP PCB ASSY)	1/10W 82Ω-J	
R 210	103P409050	CHIP RESISTOR (Y/C PCB ASSY)	1/10W 0Ω	
R 212	103P402010	CHIP RESISTOR (HEAD-AMP PCB ASSY)	1/10W 470Ω-J	
R 212	103P409050	CHIP RESISTOR (Y/C PCB ASSY)	1/10W 0Ω	[IR]
R 213	103P409050	CHIP RESISTOR	1/10W 0Ω	
R 214	103P401030	CHIP RESISTOR	1/10W 100Ω-J	
R 216	103P401080	CHIP RESISTOR	1/10W 270Ω-J	
R 217	103P401080	CHIP RESISTOR	1/10W 270Ω-J	
R 218	103P402010	CHIP RESISTOR	1/10W 470Ω-J	
R 219	103P402020	CHIP RESISTOR	1/10W 560Ω-J	
R 242	103P403070	CHIP RESISTOR	1/10W 10kΩ-J	
R 243	103P402060	CHIP RESISTOR	1/10W 1.2kΩ-J	
R 285	103P405050	CHIP RESISTOR	1/10W 330kΩ-J	

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	
R 286	103P405000	CHIP RESISTOR	1/10W 120kΩ-J	
R 287	103P471030	CHIP RESISTOR	1/10W 330Ω-F	
R 288	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	
R 291	103P403060	CHIP RESISTOR	1/10W 8.2kΩ-J	
R 299	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	
R 2D2	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	
R 2D3	103P402030	CHIP RESISTOR	1/10W 680Ω-J	
R 2D4	103P401070	CHIP RESISTOR	1/10W 220Ω-J	
R 2D5	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J	
R 2D6	103P403020	CHIP RESISTOR	1/10W 3.9kΩ-J	
R 2D7	103P404030	CHIP RESISTOR	1/10W 33kΩ-J	
R 2D8	103P404030	CHIP RESISTOR	1/10W 33kΩ-J	
R 2E1	103P403000	CHIP RESISTOR	1/10W 2.7kΩ-J	
R 2E2	103P401060	CHIP RESISTOR	1/10W 180Ω-J	
R 2E3	103P404030	CHIP RESISTOR	1/10W 33kΩ-J	
R 2E5	103P402020	CHIP RESISTOR	1/10W 560Ω-J	
R 2E6	103P403020	CHIP RESISTOR	1/10W 3.9kΩ-J	
R 2E7	103P403070	CHIP RESISTOR	1/10W 10kΩ-J	
R 2E8	103P404040	CHIP RESISTOR	1/10W 39kΩ-J	
R 2F1	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	
R 2F2	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	
R 2F3	103P404030	CHIP RESISTOR	1/10W 33kΩ-J	
R 2F4	103P403090	CHIP RESISTOR	1/10W 15kΩ-J	
R 2F5	103P401070	CHIP RESISTOR	1/10W 220Ω-J	
R 2F6	103P404030	CHIP RESISTOR	1/10W 33kΩ-J	
R 2F7	103P402020	CHIP RESISTOR	1/10W 560Ω-J	
R 2F8	103P473080	CHIP RESISTOR	1/10W 3.6kΩ-F	
R 2G0	103P402060	CHIP RESISTOR	1/10W 1.2kΩ-J	
R 2G1	103P403020	CHIP RESISTOR	1/10W 3.9kΩ-J	
R 2G2	103P403000	CHIP RESISTOR	1/10W 2.7kΩ-J	
R 2G3	103P402020	CHIP RESISTOR	1/10W 560Ω-J	
R 2G4	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	[IR]
R 267	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	
R 268	103P406010	CHIP RESISTOR	1/10W 1MΩ-J	
R 2G9	103P403060	CHIP RESISTOR	1/10W 8.2kΩ-J	
R 2H1	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	
R 2H2	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	
R 2H4	103P402060	CHIP RESISTOR	1/10W 1.2kΩ-J	
R 2H6	103P402060	CHIP RESISTOR	1/10W 1.2kΩ-J	[IR]
R 2H7	103P403070	CHIP RESISTOR	1/10W 10kΩ-J	[IR]
R 2H9	103P404040	CHIP RESISTOR	1/10W 39kΩ-J	[IR]
R 2J2	103P404030	CHIP RESISTOR	1/10W 33kΩ-J	
R 2J3	103P404010	CHIP RESISTOR	1/10W 22kΩ-J	
R 2J4	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J	
R 2J5	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	
R 2J6	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	
R 2J7	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J	
R 2J8	103P402080	CHIP RESISTOR	1/10W 1.8kΩ-J	
R 2J9	103P403080	CHIP RESISTOR	1/10W 12kΩ-J	
R 2K1	103P404010	CHIP RESISTOR	1/10W 22kΩ-J	[IR]
R 2K4	103P401070	CHIP RESISTOR	1/10W 220Ω-J	
R 2L9	103P400050	CHIP RESISTOR	1/10W 22Ω-J	
R 2M0	103P403050	CHIP RESISTOR	1/10W 8.8kΩ-J	
R 2M2	103P405040	CHIP RESISTOR	1/10W 270kΩ-J	
R 2M3	103P474020	CHIP RESISTOR	1/10W 5.1kΩ-F	

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 2N1	103P401080	CHIP RESISTOR	1/10W 270Ω-J
R 2P2	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2P3	103P402030	CHIP RESISTOR	1/10W 680Ω-J
R 2P4	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 2P5	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 2P6	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 2P7	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 2P9	103P404010	CHIP RESISTOR	1/10W 22kΩ-J [IR]
R 2R0	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 2R1	103P401080	CHIP RESISTOR	1/10W 270Ω-J
R 2R2	103P40404C	CHIP RESISTOR	1/10W 39kΩ-J
R 2R4	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 2R5	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 2R6	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 2R8	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J [IR]
R 2R9	103P403020	CHIP RESISTOR	1/10W 3.9kΩ-J [IR]
R 2S3	103P401080	CHIP RESISTOR	1/10W 270Ω-J
R 2S5	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 2S6	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 2T1	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J
R 2T3	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 2T4	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 2T5	103P402060	CHIP RESISTOR	1/10W 1.2kΩ-J
R 2T6	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J
R 2T7	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 311	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 312	103P401080	CHIP RESISTOR	1/10W 270Ω-J
R 313	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 314	103P405050	CHIP RESISTOR	1/10W 330kΩ-J
R 315	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 316	103P406010	CHIP RESISTOR	1/10W 1MΩ-J
R 317	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 318	103P4030B0	CHIP RESISTOR	1/10W 12kΩ-J
R 320	103P402060	CHIP RESISTOR	1/10W 1.2kΩ-J
R 322	103P409050	CHIP RESISTOR	1/10W 0Ω
R 323	103P402030	CHIP RESISTOR	1/10W 680Ω-J
R 324	103P404050	CHIP RESISTOR	1/10W 47kΩ-J
R 325	103P403060	CHIP RESISTOR	1/10W 8.2kΩ-J
R 327	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J
R 328	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 330	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 331	103P404020	CHIP RESISTOR	1/10W 27kΩ-J
R 332	103P403090	CHIP RESISTOR	1/10W 15kΩ-J
R 334	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 360	103P4090S0	CHIP RESISTOR	1/10W 0Ω
R 381	103P409050	CHIP RESISTOR	1/10W 0Ω
R 362	103P409050	CHIP RESISTOR	1/10W 0Ω
R 363	103P409050	CHIP RESISTOR	1/10W 0Ω
R 364	103P409050	CHIP RESISTOR	1/10W 0Ω
R 365	103P409050	CHIP RESISTOR	1/10W 0Ω
R 365	103P409050	CHIP RESISTOR	1/10W 0Ω
R 367	103P409050	CHIP RESISTOR	1/10W 0Ω
R 368	103P409050	CHIP RESISTOR	1/10W 0Ω
R 3A0	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 3A3	103P401060	CHIP RESISTOR	1/10W 180Ω-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 3A4	103P401060	CHIP RESISTOR	1/10W 180Ω-J
R 3A5	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 3A6	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 3A7	103P404050	CHIP RESISTOR	1/10W 47kΩ-J
R 3A8	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 3A9	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 3B0	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J
R 3B1	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J
R 3B2	103P474060	CHIP RESISTOR	1/10W 7.5kΩ-F
R 3B3	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J
R 3B4	103P401080	CHIP RESISTOR	1/10W 270Ω-J
R 3B6	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 3B7	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 4A1	103P473030	CHIP RESISTOR	1/10W 2.2kΩ-F
R 4A2	103P473030	CHIP RESISTOR	1/10W 2.2kΩ-F
R 4A3	103P405010	CHIP RESISTOR	1/10W 1MΩ-J
R 4A4	103P474030	CHIP RESISTOR	1/10W 5.6kΩ-F
R 4A5	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 4A9	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 4B1	103P401010	CHIP RESISTOR	1/10W 68Ω-J
R 4B2	103P475050	CHIP RESISTOR	1/10W 16kΩ-F
R 4B3	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 4B4	103P474090	CHIP RESISTOR	1/10W 10kΩ-F
R 4B5	103P479030	CHIP METAL	1/10W 680kΩ-F
R 4B6	103P476070	CHIP RESISTOR	1/10W 56kΩ-F
R 4B7	103P476070	CHIP RESISTOR	1/10W 56kΩ-F
R 4B8	103P476010	CHIP RESISTOR	1/10W 33kΩ-F
R 4B9	103P477070	CHIP RESISTOR	1/10W 150K
R 4C0	103P476010	CHIP RESISTOR	1/10W 220kΩ-F
R 4C1	103P477070	CHIP RESISTOR	1/10W 150K
R 4C2	103P476050	CHIP RESISTOR	1/10W 330kΩ-F
R 4C3	103P476030	CHIP RESISTOR	1/10W 39kΩ-F
R 4C5	103P474010	CHIP RESISTOR	1/10W 4.7kΩ-F
R 4C8	103P472030	CHIP RESISTOR	1/10W 820Ω-F
R 4C9	103P405010	CHIP RESISTOR	1/10W 1MΩ-J
R 4D0	103P475020	CHIP METAL	1/10W 240kΩ-F
R 4D1	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 4D2	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 403	103P473010	CHIP RESISTOR	1/10W 1.8kΩ-F
R 4D4	103P405070	CHIP RESISTOR	1/10W 470kΩ-J
R 4D5	103P477010	CHIP RESISTOR	1/10W 82kΩ-F
R 4D6	103P474090	CHIP RESISTOR	1/10W 10kΩ-F
R 4D7	103P403030	CHIP RESISTOR	1/10W 6.8kΩ-J
R 4D8	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 4D9	103P474070	CHIP RESISTOR	1/10W 8.2kΩ-F
R 4E0	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 4E2	103P472070	CHIP RESISTOR	1/10W 1.2kΩ-F
R 4E3	103P472070	CHIP RESISTOR	1/10W 1.2kΩ-F
R 4E4	103P404020	CHIP RESISTOR	1/10W 27kΩ-J
R 4E5	103P473050	CHIP RESISTOR	1/10W 2.7kΩ-F
R 4E6	103P404020	CHIP RESISTOR	1/10W 27kΩ-J
R 4E7	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 4E8	103P473060	CHIP RESISTOR	1/10W 3kΩ-F
R 4E9	103P404020	CHIP RESISTOR	1/10W 27kΩ-J
R 4F1	103P476030	CHIP RESISTOR	1/10W 39kΩ-F

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 4F2	103P402060	CHIP RESISTOR	1/10W 1.2kΩ-J
R 4F4	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 4G0	103P473030	CHIP RESISTOR	1/10W 2.2kΩ-F
R 4G1	103P473070	CHIP RESISTOR	1/10W 3.3kΩ-F
R 4G2	103P473030	CHIP RESISTOR	1/10W 2.2kΩ-F
R 4C3	103P473030	CHIP RESISTOR	1/10W 2.2kΩ-F
R 4H0	103P475070	CHIP RESISTOR	1/10W 22kΩ-F
R 4H1	103P475050	CHIP RESISTOR	1/10W 18kΩ-F
R 400	103P409050	CHIP RESISTOR	1/10W 0Ω
R 401	103P409050	CHIP RESISTOR	1/10W 0Ω
R 402	103P409056	CHIP RESISTOR	1/10W 0Ω
R 4R2	103P409050	CHIP RESISTOR	1/10W 0Ω
R 4S0	103P472050	CHIP RESISTOR	1/10W 1kΩ-F
R 4S1	103P409050	CHIP RESISTOR	1/10W 0Ω
R 503	103P403080	CHIP RESISTOR	1/10W 12kΩ-J
R 505	103P402030	CHIP RESISTOR	1/10W 680Ω-J
R 506	103P402060	CHIP RESISTOR	1/10W 1.2kΩ-J [B]
R 506	103P472060	CHIP RESISTOR	1/10W 1.1kΩ-F [E, IR, Y]
R 508	103P409050	CHIP RESISTOR	1/10W 0Ω
R 509	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 510	103P402030	CHIP RESISTOR	1/10W 680Ω-J
R 511	103P403060	CHIP RESISTOR	1/10W 8.2kΩ-J
R 512	103P401090	CHIP RESISTOR	1/10W 330Ω-J
R 513	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 523	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 527	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 528	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 530	103P409050	CHIP RESISTOR	1/10W 0Ω [8, IR]
R 530	103P402000	CHIP RESISTOR	1/10W 390Ω-J [E, Y]
R 532	103P403080	CHIP RESISTOR	1/10W 12kΩ-J [E, Y]
R 533	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 590	103P409050	CHIP RESISTOR	1/10W 0Ω
R 591	103P409050	CHIP RESISTOR	1/10W 0Ω
R 592	103P409050	CHIP RESISTOR	1/10W 0Ω
R 593	103P409050	CHIP RESISTOR	1/10W 0Ω
R 594	103P409050	CHIP RESISTOR	1/10W 0Ω
R 595	103P409050	CHIP RESISTOR	1/10W 0Ω
R 5A0	103P398090	FUSE	1/2W 5.6Ω-J [B]
R 5A3	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 5A4	103P404070	CHIP RESISTOR	1/10W 68kΩ-J
R 5A5	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 5A6	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 5A7	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5A8	103P402030	CHIP RESISTOR	1/10W 680Ω-J
R 5A9	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 5B0	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 5B1	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5B2	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 5B3	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 5B4	103P474090	CHIP RESISTOR	1/10W 10kΩ-F
R 5B6	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5B8	103P406010	CHIP RESISTOR	1/10W 1MΩ-J
R 5C4	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 5C5	103P403000	CHIP RESISTOR	1/10W 2.7kΩ-J
R 5C6	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 5C7	103P403090	CHIP RESISTOR	1/10W 15kΩ-J
R 5C8	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5D1	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5D2	103P405000	CHIP RESISTOR	1/10W 120kΩ-J
R 5D3	103P403030	CRIP RESISTOR	1/10W 4.7kΩ-J
R 5D4	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5D6	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5D8	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 5D9	103P405010	CHIP RESISTOR	1/10W 1MΩ-J
R 5E1	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 5E2	103P473030	CHIP RESISTOR	1/10W 2.2kΩ-F
R 5E3	103P474070	CHIP RESISTOR	1/10W 8.2kΩ-F
R 5E4	103P401020	CHIP RESISTOR	1/10W 82Ω-J
R 5E5	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 5E6	103P470070	CHIP RESISTOR	1/10W 180Ω-F
R 5E7	103P471050	CHIP RESISTOR	1/10W 390Ω-F
R 5E8	103P402040	CHIP RESISTOR	1/10W 820Ω-J
R 5E9	103P402020	CHIP RESISTOR	1/10W 580Ω-J
R 5F0	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5F1	103P405070	CHIP RESISTOR	1/10W 470kΩ-J
R 5F2	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J
R 5F4	103P405070	CHIP RESISTOR	1/10W 470kΩ-J
R 5F5	103P404050	CHIP RESISTOR	1/10W 47kΩ-J
R 5F6	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5F7	103P474090	CHIP RESISTOR	1/10W 10kΩ-F
R 5F8	103P475070	CHIP RESISTOR	1/10W 22kΩ-F
R 5F9	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5G0	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 5G1	103P404070	CHIP RESISTOR	1/10W 68kΩ-J
R 5G2	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 5G3	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 5G4	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5G5	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5G6	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 508	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5H0	103P473060	CHIP RESISTOR	1/10W 3kΩ-F
R 5H3	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 5H4	103P404040	CHIP RESISTOR	1/10W 39kΩ-J
R 5H5	103P472080	CHIP RESISTOR	1/10W 1.3kΩ-F
R 5H6	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5H7	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5H8	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5H9	103P405010	CHIP RESISTOR	1/10W 150kΩ-J
R 5J0	103P474010	CHIP RESISTOR	1/10W 4.7kΩ-F
R 5J1	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 5J2	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 5J3	103P404050	CHIP RESISTOR	1/10W 47kΩ-J
R 5J4	103P403050	CHIP RESISTOR	1/10W 6.8kΩ-J
R 5J7	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5J8	103P402030	CHIP RESISTOR	1/10W 680Ω-J [E, Y]
R 5K0	103P404020	CHIP RESISTOR	1/10W 27kΩ-J
R 5K1	103P403080	CHIP RESISTOR	1/10W 12kΩ-J
R 5K4	103P402000	CHIP RESISTOR	1/10W 390Ω-J
R 5K5	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 5K6	103P403090	CHIP RESISTOR	1/10W 15kΩ-J [E, Y]

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 5K7	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5K8	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 5L0	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 5L1	103P473090	CHIP RESISTOR	1/10W 3.9kΩ-F
R 5L2	103P474030	CHIP RESISTOR	1/10W 5.6kΩ-F
R 5L3	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 5L4	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5L5	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 5L6	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5L7	103P405050	CHIP RESISTOR	1/10W 330kΩ-J
R 5L8	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5M2	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 5M3	103P403080	CHIP RESISTOR	1/10W 12kΩ-J
R 5M4	103P403080	CHIP RESISTOR	1/10W 12kΩ-J
R 5M5	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 5M6	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 5M7	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5N0	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5N2	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 5N3	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 5N8	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 5P0	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5P2	103P472080	CHIP RESISTOR	1/10W 1.3kΩ-F
R 5P3	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 5P4	103P401080	CHIP RESISTOR	1/10W 270Ω-J
R 5P5	103P402080	CHIP RESISTOR	1/10W 1.8kΩ-J
R 5P6	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5P7	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 5P8	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 5P9	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 500	103P409050	CHIP RESISTOR	1/10W 0Ω
R 502	103P409050	CHIP RESISTOR	1/10W 0Ω
R 504	103P409050	CHIP RESISTOR	1/10W 0Ω
R 506	103P409050	CHIP RESISTOR	1/10W 0Ω
R 508	103P409050	CHIP RESISTOR	1/10W 0Ω
R 5R3	103P409050	CHIP RESISTOR	1/10W 0Ω
R 5R4	103P409050	CHIP RESISTOR	1/10W 0Ω
R 5S0	103P409050	CHIP RESISTOR	1/10W 0Ω
R 5S2	103P409050	CHIP RESISTOR	1/10W 0Ω
R 5S3	103P409050	CHIP RESISTOR	1/10W 0Ω
R 5S4	103P409050	CHIP RESISTOR	1/10W 0Ω
R 5S5	103P409050	CHIP RESISTOR	1/10W 0Ω
R 5S5	103P409050	CHIP RESISTOR	1/10W 0Ω
R 5S7	103P409050	CHIP RESISTOR	1/10W 0Ω
R 5S8	103P409050	CHIP RESISTOR	1/10W 0Ω
R 5S9	103P409050	CHIP RESISTOR	1/10W 0Ω
R 5T0	103P409050	CHIP RESISTOR	1/10W 0Ω
R 5T1	103P409050	CHIP RESISTOR	1/10W 0Ω
R 5T2	103P409050	CHIP RESISTOR	1/10W 0Ω
R 5T3	103P409050	CHIP RESISTOR	1/10W 0Ω
R 5T4	103P409050	CHIP RESISTOR	1/10W 0Ω
R 5T5	103P409050	CHIP RESISTOR	1/10W 0Ω
R 5T7	103P409050	CHIP RESISTOR	1/10W 0Ω
R 5U0	103P409050	CHIP RESISTOR	1/10W 0Ω
R 5U1	103P409050	CHIP RESISTOR	1/10W 0Ω

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 5U2	103P409050	CHIP RESISTOR	1/10W 0Ω
R 5U3	103P409050	CHIP RESISTOR	1/10W 0Ω
R 5U4	103P409050	CHIP RESISTOR	1/10W 0Ω
R 651	103P404010	CHIP RESISTOR	1/10W 22kΩ-J [IR]
R 652	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J [IR]
R 653	103P404000	CHIP RESISTOR	1/10W 18kΩ-J [IR]
R 655	103P404010	CHIP RESISTOR	1/10W 22kΩ-J [IR]
R 658	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J [IR]
R 657	103P402030	CHIP RESISTOR	1/10W 680Ω-J [IR]
R 658	103P402030	CHIP RESISTOR	1/10W 680Ω-J [IR]
R 662	103P402050	CHIP RESISTOR	1/10W 1kΩ-J [IR]
R 902	109P052050	FUSE	1/4W 6.8Ω-J
R 905	109P052010	FUSE	1/4W 100Ω-J
RJ 1	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 2	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 3	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 5	103P409050	CHIP RESISTOR	1/10W 0Ω

CAPACITORS AND TRIMMERS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
C 01	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 101	154P322080	CHIP CAPACITOR	SL50V 47pF-J
C 102	154P322080	CHIP CAPACITOR	SL50V 47pF-J
C 103	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 108	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 109	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 111	154P331030	CHIP CAPACITOR	CH50V 12pF-J
C 115	154P322060	CHIP CAPACITOR	SL50V 39pF-J
C 119	154P323060	CHIP CAPACITOR	SL50V 100pF-J [B]
C 119	154P324020	CHIP CAPACITOR	SL50V 180pF-J [E, IR]
C 119	154P326000	CHIP CAPACITOR	SL50V 390pF-J [Y]
C 121	154P331010	CHIP CAPACITOR	CH50V 10pF-C [B, E, IR]
C 121	154P330080	CHIP CAPACITOR	CH50V 7pF-C [Y]
C 1N1	141P132010	CHIP CAPACITOR	B50V 0.01μF-K [B, E, IR]
C 201	154P322080	CHIP CAPACITOR	SL50V 47pF-J
C 202	154P322060	CHIP CAPACITOR	SL50V 39pF-J
C 207	154P323020	CHIP CAPACITOR	SL50V 68pF-J
C 209	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 210	141P137080	CHIP CAPACITOR	B25V 0.047μF-K
C 211	141P137080	CHIP CAPACITOR	B25V 0.047μF-K
C 215	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 220	154P322080	CHIP CAPACITOR	SL50V 47pF-J
C 221	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 234	154P322020	CHIP CAPACITOR	SL50V 27pF-J
C 236	154P322060	CHIP CAPACITOR	SL50V 39pF-J
C 249	154P323040	CHIP CAPACITOR	SL50V 82pF-J
C 255	154P322040	CHIP CAPACITOR	SL50V 33pF-J
C 256	154P324020	CHIP CAPACITOR	SL50V 180pF-J
C 290	154P322080	CHIP CAPACITOR	SL50V 47pF-J
C 299	141P130090	CHIP CAPACITOR	B50V 1000pF-K
C 2C1	141P132000	CHIP CAPACITOR	B50V 8200pF-K
C 2C2	154P322050	CHIP CAPACITOR	SL50V 39pF-J
C 2C3	154P325000	CHIP CAPACITOR	SL50V 390pF-J
C 2C4	154P325020	CHIP CAPACITOR	SL50V 470P
C 2C5	154P323020	CHIP CAPACITOR	SL50V 68pF-J
C 2C8	154P324000	CHIP CAPACITOR	SL50V 150pF-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	
C 2C9	154P324000	CHIP CAPACITOR	SL50V 150pF-J	
C 2D1	154P323020	CHIP CAPACITOR	SL50V 68pF-J	
C 2D4	154P324040	CHIP CAPACITOR	SL50V 220pF-J	
C 2D7	154P325000	CHIP CAPACITOR	SL50V 390pF-J	
C 2E0	154P322080	CHIP CAPACITOR	SL50V 47pF-J	
C 2E1	154P322000	CHIP CAPACITOR	SL50V 22pF-J	
C 2E3	141P132000	CHIP CAPACITOR	B50V 8200pF-K	
C 2E4	141P137040	CHIP CAPACITOR	B25V 0.022 μF-K	
C 2F4	141P137080	CHIP CAPACITOR	B25V 0.047 μF-K	
C 2F5	141P132000	CHIP CAPACITOR	B50V 8200pF-K	[IR]
C 2F7	141P139030	CHIP CAPACITOR	B25V 0.1 μF-K	
C 2G4	141P132000	CHIP CAPACITOR	B50V 8200pF-K	[IR]
C 2G5	141P132000	CHIP CAPACITOR	B50V 8200pF-K	
C 2G7	141P132000	CHIP CAPACITOR	B50V 8200pF-K	
C 2H0	154P322020	CHIP CAPACITOR	SL50V 27pF-J	
C 2H1	154P322040	CHIP CAPACITOR	SL50V 33pF-J	
C 2H2	154P320080	CHIP CAPACITOR	SL50V 6pF-C	
C 2H3	154P322080	CHIP CAPACITOR	SL50V 47pF-J	
C 2H7	141P132000	CHIP CAPACITOR	B50V 8200pF-K	
C 2J9	154P323080	CHIP CAPACITOR	SL50V 120pF-J	[E, Y]
C 2P2	154P322060	CHIP CAPACITOR	SL50V 39pF-J	
C 2P3	154P323020	CHIP CAPACITOR	SL50V 68pF-J	
C 2P5	141P132000	CHIP CAPACITOR	B50V 8200pF-K	
C 2P8	141P132000	CHIP CAPACITOR	B50V 8200pF-K	
C 2R0	154P322020	CHIP CAPACITOR	SL50V 27pF-J	
C 2R1	154P322000	CHIP CAPACITOR	SL50V 22pF-J	
C 2R2	141P137040	CHIP CAPACITOR	B25V 0.022 μF-K	
C 2R3	141P137080	CHIP CAPACITOR	B25V 0.047 μF-K	
C 2R4	154P323060	CHIP CAPACITOR	SL50V 100pF-J	
C 2R5	141P139030	CHIP CAPACITOR	B25V 0.1 μF-K	
C 2R7	141P132000	CHIP CAPACITOR	B50V 8200pF-K	
C 310	141P132000	CHIP CAPACITOR	B50V 8200pF-K	
C 311	141P130080	CHIP CAPACITOR	B50V 820pF-K	
C 318	141P131050	CHIP CAPACITOR	B50V 3300pF-K	
C 328	141P130060	CHIP CAPACITOR	B50V 550pF-K	
C 330	141P130090	CHIP CAPACITOR	B50V 1000pF-K	
C 331	141P132000	CHIP CAPACITOR	B50V 8200pF-K	
C 3A1	141P132010	CHIP CAPACITOR	B50V 0.01 μF-K	
C 3A2	141P132010	CHIP CAPACITOR	B50V 0.01 μF-K	
C 3A5	141P132010	CHIP CAPACITOR	B50V 0.01 μF-K	
C 3A6	141P132010	CHIP CAPACITOR	B50V 0.01 μF-K	
C 3A7	141P132010	CHIP CAPACITOR	B50V 0.01 μF-K	
C 3A9	141P132010	CHIP CAPACITOR	850V 0.01 μF-K	
C 3B2	141P132010	CHIP CAPACITOR	B50V 0.01 μF-K	
C 3B3	154P325020	CHIP CAPACITOR	SL50V 470pF-J	
C 3B4	154P325020	CHIP CAPACITOR	SL50V 470pF-J·	
C 4B3	141P132000	CHIP CAPACITOR	B50V 8200pF-K	
C 4B4	141P132000	CHIP CAPACITOR	850V 8200pF-K	
C 4B5	141P139010	CHIP CAPACITOR	825V 0.068 μF-K	
C 4B6	141P131030	CHIP CAPACITOR	B50V 2200pF-K	
C 4C4	141P130060	CHIP CAPACITOR	850V 580pF-K	
C 4C9	141P130090	CHIP CAPACITOR	B50V 1000pF-K	
C 4D5	141P130090	CHIP CAPACITOR	B50V 1000pF-K	
C 4D8	141P131050	CHIP CAPACITOR	B50V 3300pF-K	
C 4E0	154P324020	CHIP CAPACITOR	SL50V 180pF-J	
C 4G0	141P139030	CHIP CAPACITOR	B25V 0.1 μF-K	
C 4G1	141P132010	CHIP CAPACITOR	B50V 0.01 μF-K	
C 501	154P330060	CHIP CAPACITOR	CH50V 5pF-C	
C 502	154P330060	CHIP CAPACITOR	CH50V 5pF-C	
C 505	154P332010	CHIP CAPACITOR	CH50V 27pF-J	
C 507	154P332010	CHIP CAPACITOR	CH50V 27pF-J	
C 510	141P137080	CHIP CAPACITOR	B25V 0.047 μF-K	
C 512	141P133080	CHIP CAPACITOR	F50V 0.01 μF-Z	
C 514	141P133080	CHIP CAPACITOR	F50V 0.01 μF-Z	
C 524	141P131010	CHIP CAPACITOR	B50V 1500pF-K	
C 525	154P322080	CHIP CAPACITOR	SL50V 47pF-J	[E, Y]
C 5A0	141P131020	CHIP CAPACITOR	B50V 1800pF-K	
C 5A1	141P131030	CHIP CAPACITOR	B50V 2200pF-K	
C 5A3	141P133090	CHIP CAPACITOR	F50V 0.022 μF-Z	
C 5A4	154P324060	CHIP CAPACITOR	SL50V 270pF-J	
C 5A5	154P331050	CHIP CAPACITOR	CH50V 15pF-J	
C 5A7	141P133080	CHIP CAPACITOR	F50V 0.01 μF-Z	
C 5B0	154P332030	CHIP CAPACITOR	CH50V 33pF-J	
C 5E0	141P133090	CHIP CAPACITOR	F50V 0.022 μF-Z	
C 5E1	141P133090	CHIP CAPACITOR	F50V 0.022 μF-Z	
C 5F8	141P133090	CHIP CAPACITOR	F50V 0.022 μF-Z	
C 5F9	141P133090	CHIP CAPACITOR	F50V 0.022 μF-Z	
C 5G1	141P132000	CHIP CAPACITOR	B50V 8200pF-K	
C 502	141P132000	CHIP CAPACITOR	B50V 8200pF-K	
C 5H1	141P133080	CHIP CAPACITOR	F50V 0.01 μF-Z	
C 653	141P132010	CHIP CAPACITOR	B50V 0.01 μF-K	[IR]
C 656	141P132000	CHIP CAPACITOR	B50V 8200pF-K	[IR]
C 660	141P132000	CHIP CAPACITOR	850V 8200pF-K	[IR]
C 661	141P132000	CHIP CAPACITOR	B50V 8200pF-K	[IR]
C 662	141P132000	CHIP CAPACITOR	B50V 8200pF-K	[IR]
C 663	154P332090	CHIP CAPACITOR	CH50V 56pF-J	[IR]
C 664	154P332090	CHIP CAPACITOR	CH50V 56pF-J	[IR]
C 905	185D065050	ELECTROLYTIC-C	H25V 3300M	
C 906	185D063040	ELECTROLYTIC-C	H25V 4700 μF-M 105C	
VC8A0	202P109020	TRIMMER CAPACITOR	4.ZpF-20pF	

SWITCHES

S 701	432P089040	KEY BOARD SWITCH	POWER
S 702	432P089040	KEY BOARD SWITCH	EJECT
S 704	431C099020	SLIDE SWITCH	INTELLIGENT PICTURE
S 8A3	432P089020	KEY BOARD SWITCH	CH-UP
S 8A5	432P089020	KEY BOARD SWITCH	REPEAT PLAY
S 8A6	432P089020	KEY BOARD SWITCH	PB
S 8B3	432P089020	KEY BOARD SWITCH	CH-DOWN
S 8B4	432P089020	KEY BOARD SWITCH	TAPE SPEED
S 8B5	432P089020	KEY BOARD SWITCH	S-OTR
S 8B6	432P089020	KEY BOARD SWITCH	REC
S 8B7	432P089020	KEY BOARD SWITCH	STOP
S B05	432P089020	KEY BOARD SWITCH	OTR
S 8C8	432P089020	KEY BOARD SWITCH	FF
S 8C7	432P089020	KEY BOARD SWITCH	STILL/PAUSE
S 8C8	432P089020	KEY BOARD SWITCH	REW
S 8D3	432P089020	KEY BOARD SWITCH	DISPLAY
S 8D5	432P089020	KEY BOARD SWITCH	ONE KEY PROGRAM
S 8R0	432P089020	KEY BOARD SWITCH	RESET

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
SW570	439P019010	MODE SELECT SWITCH	[B, E, Y]
SW570	439P019020	MODE SELECT SWITCH	[IR]
SW571	439P020010	LIMIT SWITCH	SPP8-62

MISCELLANEOUS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
	242D297020	IF CABLE	
CU 01	295P276020	RF CONVERTER	MDLK6B7 [B, IR]
CU 01	295P276010	RF CONVERTER	[E, Y]
DC CC	243C061020	CARD LEAD	9P L=150(DC-CC)
DM CM	243C061090	CARD LEAD	17P L150(DM-CM)
F 901	283D0460B0	FUSE	0.63A-T
F 902	283D047D50	FUSE	2.5A-T
F 903	283D047050	FUSE	2.5A-T
J 1N1	451P032010	PIN JACK	[B, E, IR]
J 2A0	440C183010	PIN JACK(4P)	
J 2001	451C058020	CONNECTOR	21P
J 7Y1	451P032010	PIN JACK	[B, E, IR]
M 470	288P118010	CAPSTAN MOTOR	F20KB76
M 570	288P088040	DRUM MOTOR	
M 571	288D025010	LOADING MOTOR	
MF TF	243C022020	CARD LEAD	
MK TK	243C020010	CARD LEAD	(MK-TK)
MR HR	243C077090	CARD LEAD	11P L130(MR-HR)
MX PX	243C073010	CARD LEAD	9P L=130(MX-PX)
T 370	460P060050	HEAD	
T 371	460P061020	FE HEAD	
TU 01	295P194030	TUNER	TERB1-054A [B]
TU 01	295P261020	TUNER	ENV-57819F1C [E]
TU 01	295P260030	TUNER	ENV-59808F2 [IR]
TU 01	295P297010	TUNER	TERE1-0J9A [Y]
V 8A0	253P085020	TUBE FLUOR	FIP11AMW11
X 2A0	285P083010	CRYSTAL RESONATOR	4.43352MHz
X 501	2B5P084010	CRYSTAL RESONATOR	17.7345MHz
X 7A0	285P091010	CRYSTAL RESONATOR	6.552MHz [B, IR]
X 7A0	2B5P092010	CRYSTAL RESONATOR	5.85MHz [E]
X 7A1	285P154010	CRYSTAL RESONATOR	11.648MHz [B, E, IR]
X 7A2	2B5P094010	CRYSTAL RESONATOR	S3768 [B, E, IR]
X 8A0	285P063040	CRYSTAL RESONATOR	4.19430MHz
X 8A1	2B5P054010	CRYSTAL RESONATOR	32.76BkHz
Z 8A0	939P481020	PREAMP UNIT	HC-479M

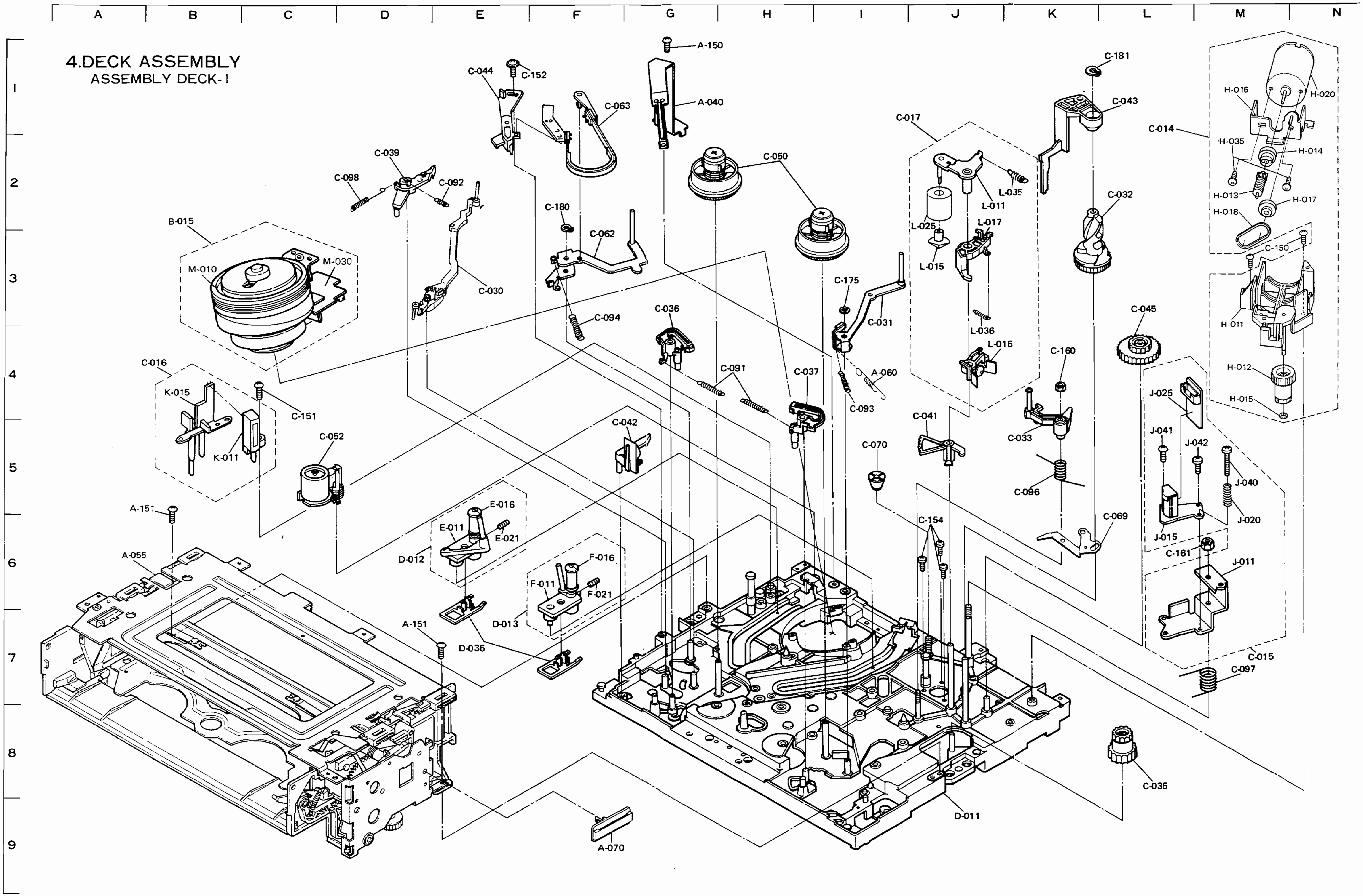
PRINTED CIRCUIT BOARD ASSY'S

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
	928C595001	DECK PCB ASSY	
	927B441010	HEAD-AMP PCB ASSY	[B, IR]
	927B441009	HEAD-AMP PCB ASSY	[E, Y]
	927B583012	Hi-Fi PCB ASSY	[B]
	927B583018	Hi-Fi PCB ASSY	[E]
	927B583017	Hi-Fi PCB ASSY	[IR]
	927B583011	Hi-Fi PCB ASSY	[Y]
	928D071020	MAIN PCB ASSY	[B]
	928D071030	MAIN PCB ASSY	[E]
	928D071040	MAIN PCB ASSY	[IR]
	928D071010	MAIN PCB ASSY	[Y]
	927B585012	POWER PCB ASSY	[B]
	927B585011	POWER PCB ASSY	[E, IR, Y]
	928C789001	POWER SUB PCB ASSY	
	928D072020	TIMER PCB ASSY	[B]
	928D072030	TIMER PCB ASSY	[E]
	928D072040	TIMER PCB ASSY	[IR]
	928D072010	TIMER PCB ASSY	[Y]
	928C792002	TUNER PCB ASSY	[B]
	92BC792003	TUNER PCB ASSY	[E]
	92BC792004	TUNER PCB ASSY	[IR]
	928C792001	TUNER PCB ASSY	[Y]

[MEMO]

4.DECK ASSEMBLY

ASSEMBLY DECK-1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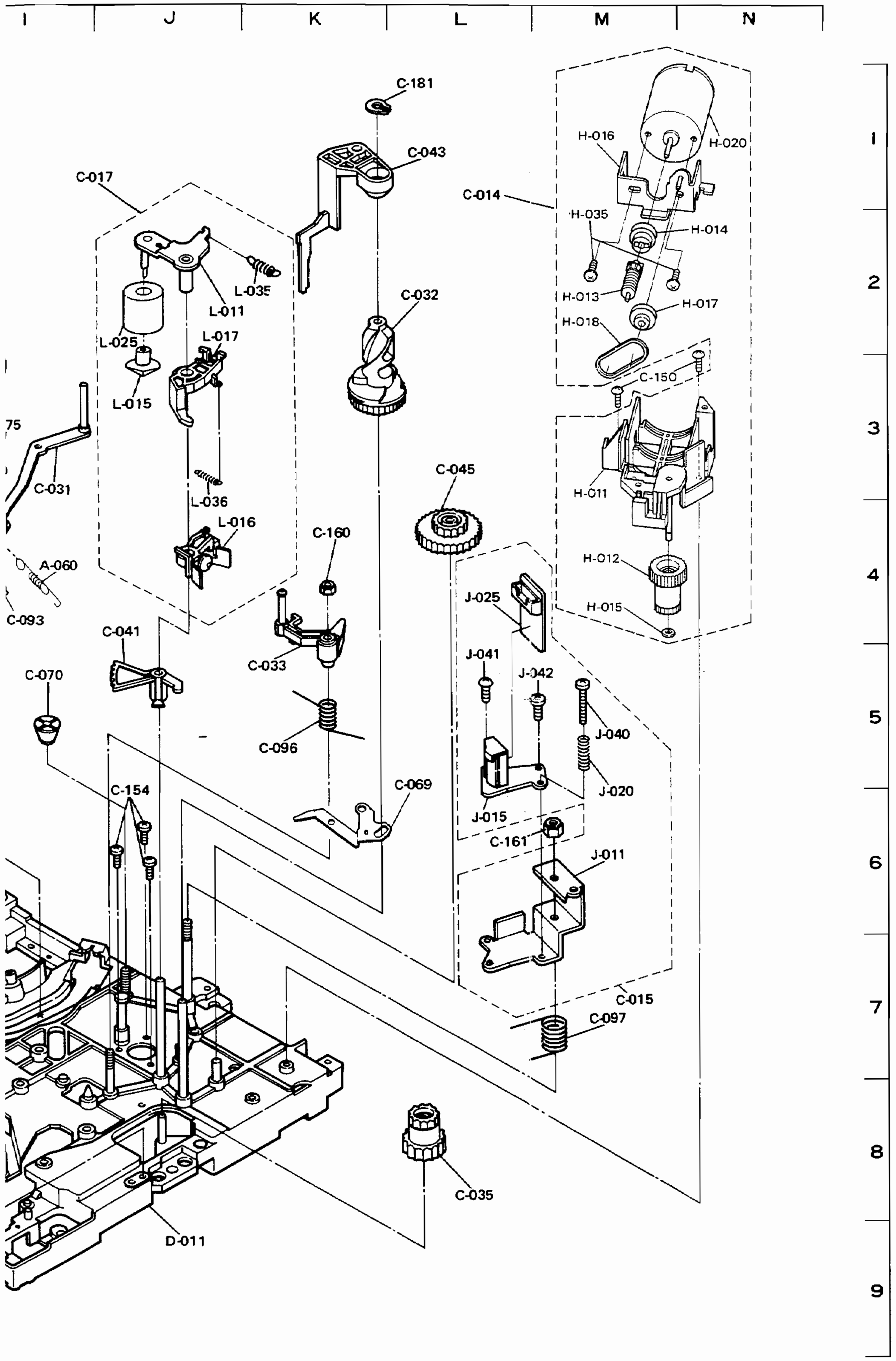


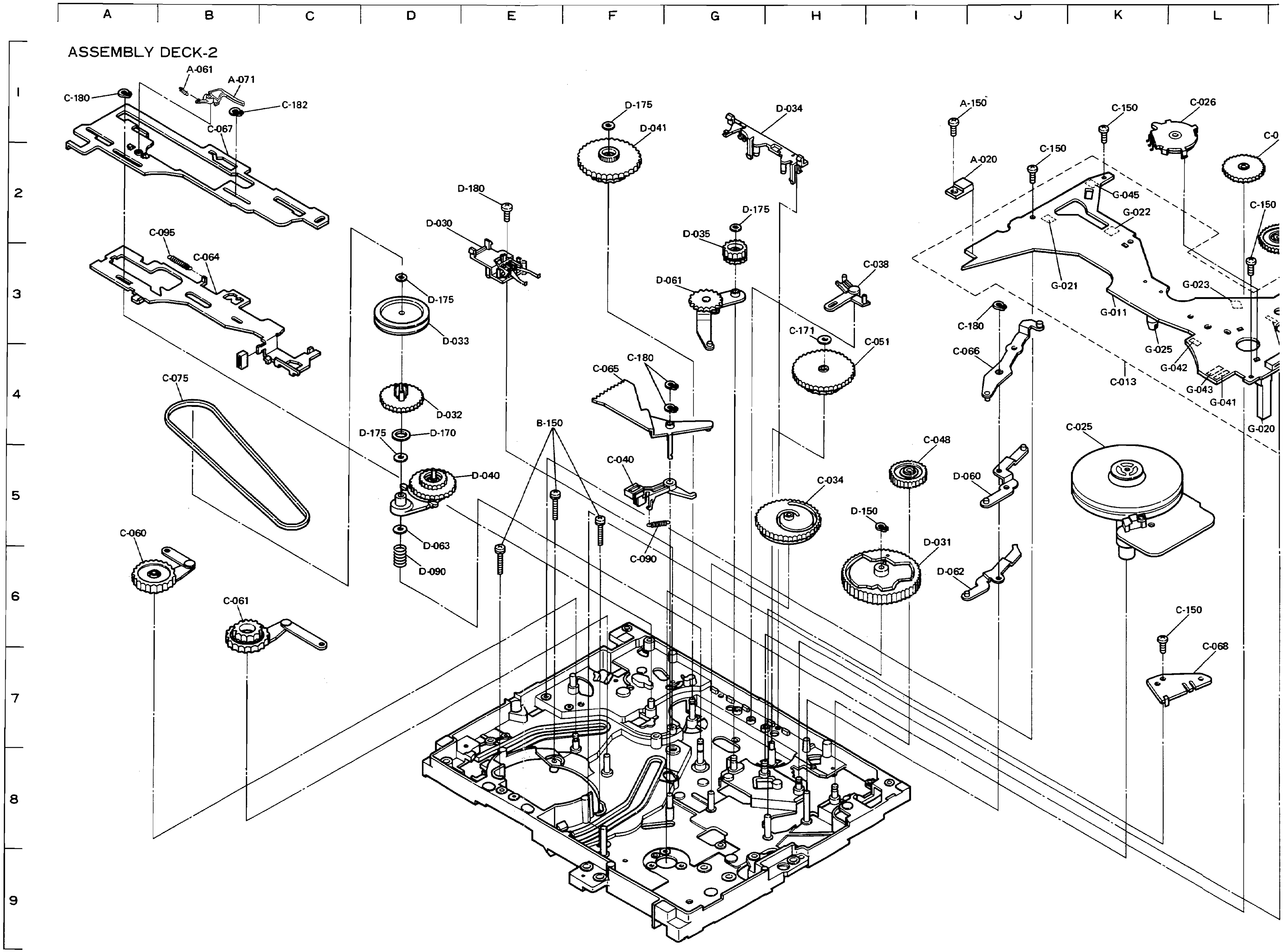
＊Settelled Service Parts

ITEM	PARTS No.	＊	ADDRESS		PARTS NAME	DESCRIPTION	Qt.
B-015	948B274018	○	B-2		ASSY-DRUM		01
M-010	928B984007	○	B-3		ASSY-UPPER-DRUM		01
M-030	288P088040	○	C-3		MOTOR-DRUM	M570	01
D-011	948A071020		J-9		ASSY-MAIN-PLATE		01
D-012	948D018040	○	D-6		ASSY-TAPE-GUIDE-S		01
D-012	948D018050	○	D-6		ASSY-TAPE-GUIDE-S		01
D-012	948D018060	○	D-6		ASSY-TAPE-GUIDE-S		01
E-011	635B059010	○	E-6		TAPE-GUIDE-S		01
E-011	635B059020	○	E-6		TAPE-GUIDE-S		01
E-011	635B059030	○	E-6		TAPE-GUIDE-S		01
E-016	522D177010	○	E-5		GUIDE-ROLLER		01
E-021	669D197020		E-6		SET-SCREW-F	M3×0.5-4	01
D-013	948D019040	○	E-7		ASSY-TAPE-GUIDE-T		01
D-013	948D019050	○	E-7		ASSY-TAPE-GUIDE-T		01
D-013	948D019060	○	E-7		ASSY-TAPE-GUIDE-T		01
F-011	635B060010	○	F-6		TAPE-GUIDE-T		01
F-011	635B060020	○	F-6		TAPE-GUIDE-T		01
F-011	635B060030	○	F-6		TAPE-GUIDE-T		01
F-016	522D177010	○	F-6		GUIDE-ROLLER		01
F-021	669D197020		F-6		SET-SCREW-F	M3×0.5-4	01
D-036	621D522010	○	E-7		SLIDER		02
C-014	928D031010	○	N-5		ASSY-LOAD-MOTOR		01
H-011	641B313010		0-4		HOLDER-MOTOR		01
H-012	641C783010		N-4		GEAR-WHEEL		01
H-013	641C801010		N-2		GEAR-WORM		01
H-014	621D784010		0-2		CUPLING-2		01
H-015	552C007030	○	N-4		CUT-WASHER	2.5	01
H-016	593C059010		N-1		PLATE-HOLDER-M2		01
H-017	621D793010	○	0-2		PULLEY-L		01
H-018	521D074010	○	N-2		BELT-LM		01
H-020	288D025010	○	0-1		MOTOR-LOADING	M571	01
H-035	650P300030		N-2		SCREW-F-FE-PAN	M3×0.5-3	02
C-015	928D032030	○	M-7		ASSY-AC-HEAD		01
J-011	592C760010		M-6		ARM-AC		01
J-015	460P060050	○	L-6		HEAD-AC	T370	01
J-020	570D593010		M-6		SPRING-AC		01
J-025	215C393010		L-4		PWB-AC-AF		01
J-040	650P261040		M-5		SCREW-F-FE-PAN	M2.6×0.45-14	01
J-041	669D227010	○	L-5		SCREW-TS	M2.6×6	01
J-042	669D206030		L-5		SCREW		01
C-016	928D033010		B-4		ASSY-FE-HEAD		01
K-011	460P061020	○	B-5		HEAD-FE	T371	01
K-015	641C870010		B-4		HOLDER-FE		01
C-017	948D020010	○	I-1		ASSY-ARM-PINCH		01
L-011	591B536010		J-2		ARM-PINCH		01
L-015	621D523010	○	J-3		CAP-ROLLER		01
L-016	641C797010	○	J-4		LEVER-CAM-PINCH		01
L-017	641C798010	○	J-2		LEVER-ARM-PINCH		01
L-025	522D174010	○	J-2		ROLLER-PINCH		01
L-035	572D314010	○	K-2		SPRING-PINCH		01
L-036	572D315010	○	J-4		SPRING-CAM-PINCH		01
C-030	641B368010	○	E-3		ARM-TENS-REG-S2		01
C-031	591B551020	○	I-3		ARM-TENS-REG-T		01
C-032	641B314020	○	L-2		CAM-PINCH		01
C-033	635B068010	○	K-5		ARM-TU-G		01
C-035	641C782010	○	L-8		GEAR-JOINT		01
C-036	641B527020	○	G-3		BRAKE-MAIN-S2		01
C-037	641B526020	○	H-4		BRAKE-MAIN-T2		01

＊Settelled Service Parts

ITEM	PARTS No.	＊	ADDRESS		PARTS NAME	DESCRIPTION	Qt.
C-039	641C796010	○	D-2		LEVER-TENS		01
C-041	641C991010	○	J-4		ARM-GEAR-TU-G2		01
C-042	641C804010	○	F-5		LEVER-REC-SAFETY		01
C-043	641C806010	○	L-1		CAP-ARM-PINCH		01
C-044	641C861010		E-1		HOLDER-T-BAND		01
C-045	621D509010	○	L-3		GEAR-1		01
C-050	522C076020	○	H-2		UNIT-REEL-DISK		02
C-052	641B319010	○	C-5		UNIT-IMP-ROLLER		01
C-062	591B547010	○	F-3		ARM-TENSION		01
C-063	591B552010	○	F-1		BELT-TENS-BRAKE		01
C-069	592C930010		L-6		LEVER-TENS-TU		01
C-070	635D063010		I-5		NUT-TAPER		01
C-091	572D309010	○	H-4		SPRING-M-B		02
C-092	572D391010	○	E-2		SPRING-TENS-REG-S2		01
C-093	572D390010	○	I-4		SPRING-TENS-REG-T2		01
C-094	572D312010	○	F-3		SPRING-TENS		01
C-096	572D317010	○	K-5		SPRING-TU-G		01
C-097	572D318010	○	M-7		SPRING-ARM-A/C		01
C-098	572D328010	○	D-2		SPRING-REC-SAFETY		01
C-150	669D227010	○	M-3		SCREW-TS	M2.6×6	02
C-151	669D227030	○	C-4		SCREW-TS	M2.6×10	01
C-152	669D228010		E-1		SCREW-TS-SEMS	M2.6×6	01
C-154	669D285040		J-6		SCREW-TB-PAN	M2.6×8	03
C-160	674D081020	○	K-4		NUT-NYLON	M3×0.5	01
C-161	674D100010	○	L-6		NUT-NYLON-S	M4×0.7	01
C-175	552C007030	○	I-3		CUT-WASHER	2.5	01
C-180	685C009010	○	F-2		GRIP-RING		01
C-181	685C009020	○	L-1		GRIP-RING		01
A-040	299C025010	○	G-1		BRUSH		01
A-055	590A256020	○	A-6		UNIT-F/L-F		01
A-060	572D401010	○	I-4		SPRING-RS		01
A-070	641C906010	○	F-9		HOLDER-CARD		01
A-150	669D227010	○	G-1		SCREW-TS	M2.6×6	01
A-151	669D227020	○	A-5	D-7	SCREW-TS	M2.6×8	02

ASSEMBLY DECK-2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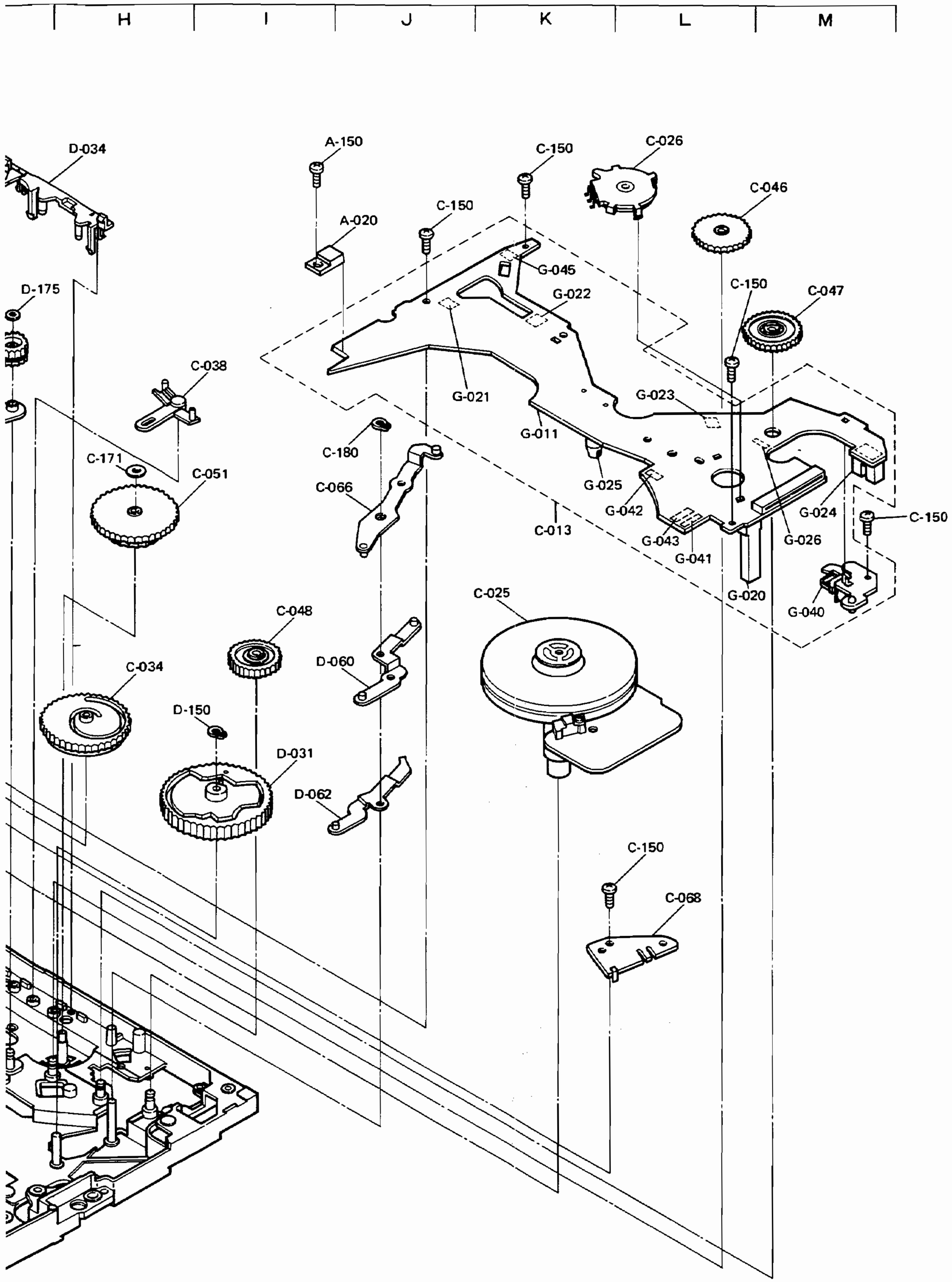
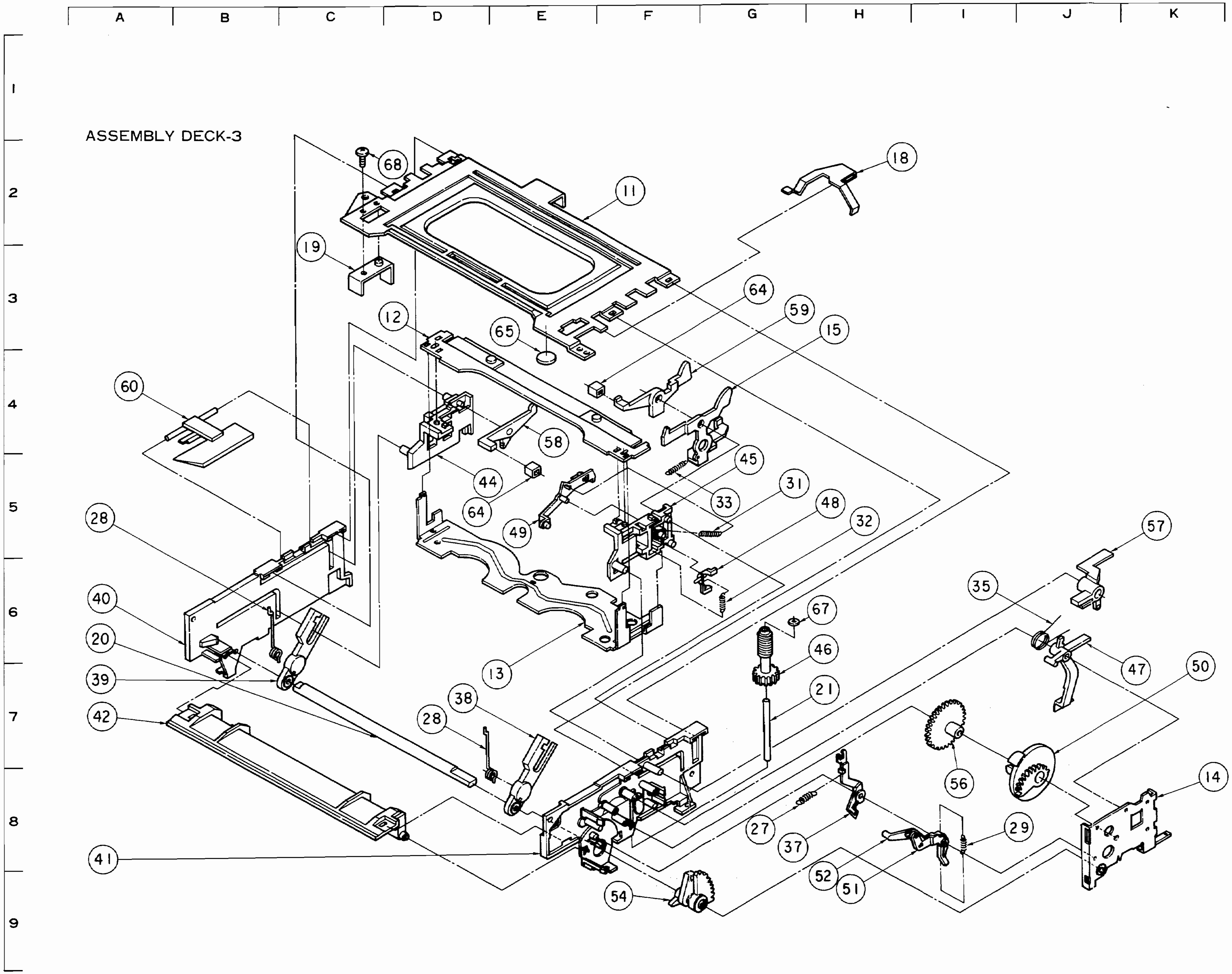


∗ Settelled Service Parts

ITEM	PARTS No.	∗	ADDRESS		PARTS NAME	DESCRIPTION	Qt.
B-150	669D200040		E-4		SCREW-SEMS	M2. 6×0. 45-10	03
D-030	641B310010	○	E-2		UNIT-LEVER-SHIFT		01
D-031	641B323010	○	I-5		CAM-MAIN-1		01
D-032	641C789020	○	D-4		PULLEY-GEAR		01
D-033	641C790010	○	D-3		PULLEY-BELT		01
D-034	641C815010		H-1		HOLDER-P-CAM		01
D-035	621D516010	○	G-2		GEAR-F/L-1		01
D-040	522C077020	○	E-5		UNIT-GEAR-IDLER		01
D-041	522C083010	○	F-1		UNIT-GEAR-REEL-S		01
D-060	591B559010		I-5		LEVER-C		01
D-061	591B567010	○	G-3		LEVER-F/L-ID		01
D-062	592C830010		I-6		LEVER-RS		01
D-063	596D057010	○	D-5		WASHER-R	T=0. 3	01
D-090	572D306010	○	D-6		SPRING-SHIFT		01
D-150	685C009010	○	H-5		GRIP-RING		01
D-170	552C010040	○	D-4		WASHER-THRUST	6. 7×12×0. 13	01
D-175	552C007030	○	D-3 G-2	D-4 F-1	CUT-WASHER	2. 5	04
D-180	669D227010	○	E-2		SCREW-TS	M2. 6×6	01
C-013	928C595001	○	K-4		ASSY-PWB-DECK		01
G-011	240A750010		K-3		PWB-DECK		01
G-020	268P014020	○	L-4		TRANSISTOR	Q571 PN205L-(NC)	01
G-021	268P014020	○	J-3		TRANSISTOR	Q572 PN205L-(NC)	01
G-022	268P044010	○	K-2		PHOTO-INTERRUPTER	Q573 ON2270-R	01
G-023	268P044010	○	L-3		PHOTO-INTERRUPTER	Q574 ON2270-R	01
G-024	268P045010	○	M-4		PHOTO-INTERRUPTER	Q575 GP1L52	01
G-025	264P307020	○	K-4		DIODE-LE	D570 GL-451	01
G-026	264P515010	○	M-4		DIODE	D571 MA165	01
G-040	299P124010	○	M-4		LATCH-MAGNET	L570	01
G-041	260P455010	○	L-4		TRANSISTOR	Q581 DTC124EF	01
G-042	260P455010	○	L-4		TRANSISTOR	Q582 DTC124EF	01
G-043	260P455010	○	L-4		TRANSISTOR	Q583 DTC124EF	01
G-045	439P020010	○	K-2		SW-LIMIT	SW571	01
C-025	288P118010	○	K-4		MOTOR-CP	M470	01
C-026	439P019010	○	L-1		SW-MODE-SELECT-F	SW570	01
C-034	641B324010	○	H-5		CAM-MAIN-2		01
C-038	641C795010	○	I-3		LEVER-IDLER-S		01
C-040	641C800010	○	F-5		BRAKE-CP		01
C-046	621D517010	○	M-1		GEAR-F/L-2		01
C-047	621D518010	○	M-2		GEAR-F/L-3		01
C-048	621D519010	○	I-4		GEAR-F/L-4		01
C-051	522C078040	○	I-3		UNIT-GEAR-REEL		01
C-060	591B543010	○	A-5		ARM-LOAD-S		01
C-061	591B544010	○	B-6		ARM-LOAD-T		01
C-064	591B554010		B-3		PLATE-CAM-C		01
C-065	591B557010	○	F-4		ARM-GEAR-LOAD		01
C-066	591B558010		J-4		LEVER-B		01
C-067	592C949010		B-1		UNIT-PLATE-CAM-B3		01
C-068	596D186010		L-6		PLATE-SHIELD-F		01
C-075	521D062010	○	B-4		BELT-REEL		01
C-090	572D308020	○	F-6		SPRING-B-CP		01
C-095	572D313010	○	B-2		SPRING-CAM-C		01
C-150	669D227010	○	J-2 L-2 M-4	K-1 L-6	SCREW-TS	M2. 6×6	05
C-171	552C006020	○	H-3		WASHER-THRUST	2. 0×0. 13	01
C-180	685C009010	○	A-1 J-3	F-4	GRIP-RING		04
C-182	552C009050	○	C-1		CUT-WASHER		01
A-020	260P630010	○	J-2		TRANSISTOR	Q971 2SD2012	01
A-061	572D404010	○	B-1		SPRING-B-RS		01
A-071	641C928010	○	B-1		LEVER-B-RS		01
A-150	669D227010	○	I-1		SCREW-TS	M2. 6×6	01

ASSEMBLY DECK-3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* Settelled Service

ITEM	PARTS No.	*
11	591B545010	
12	592C758010	
13	591B546010	
14	591B542010	
15	592C851010	
18	596D150010	
19	596D217010	
20	631D134010	
21	631D135010	
27	(not used)	
28	572D301010	C
29	572D389010	
31	572D304010	
32	572D305010	
33	572D380010	
35	572D367010	
37	(not used)	
38	641B315010	C
39	641B315020	C
40	641A110010	
41	641A109010	
42	641B306010	
44	641B309010	
45	641B307010	
46	621D513010	C
47	621D514010	
48	621D515010	C
49	641C794010	
50	641C793010	C
51	641C897010	C
52	641C898010	C
54	641C858010	C
56	641C814010	C
57	641C857010	
58	621D585010	
59	621D586010	
60	641C878010	
64	642D494010	
65	(not used)	
67	552C001040	C
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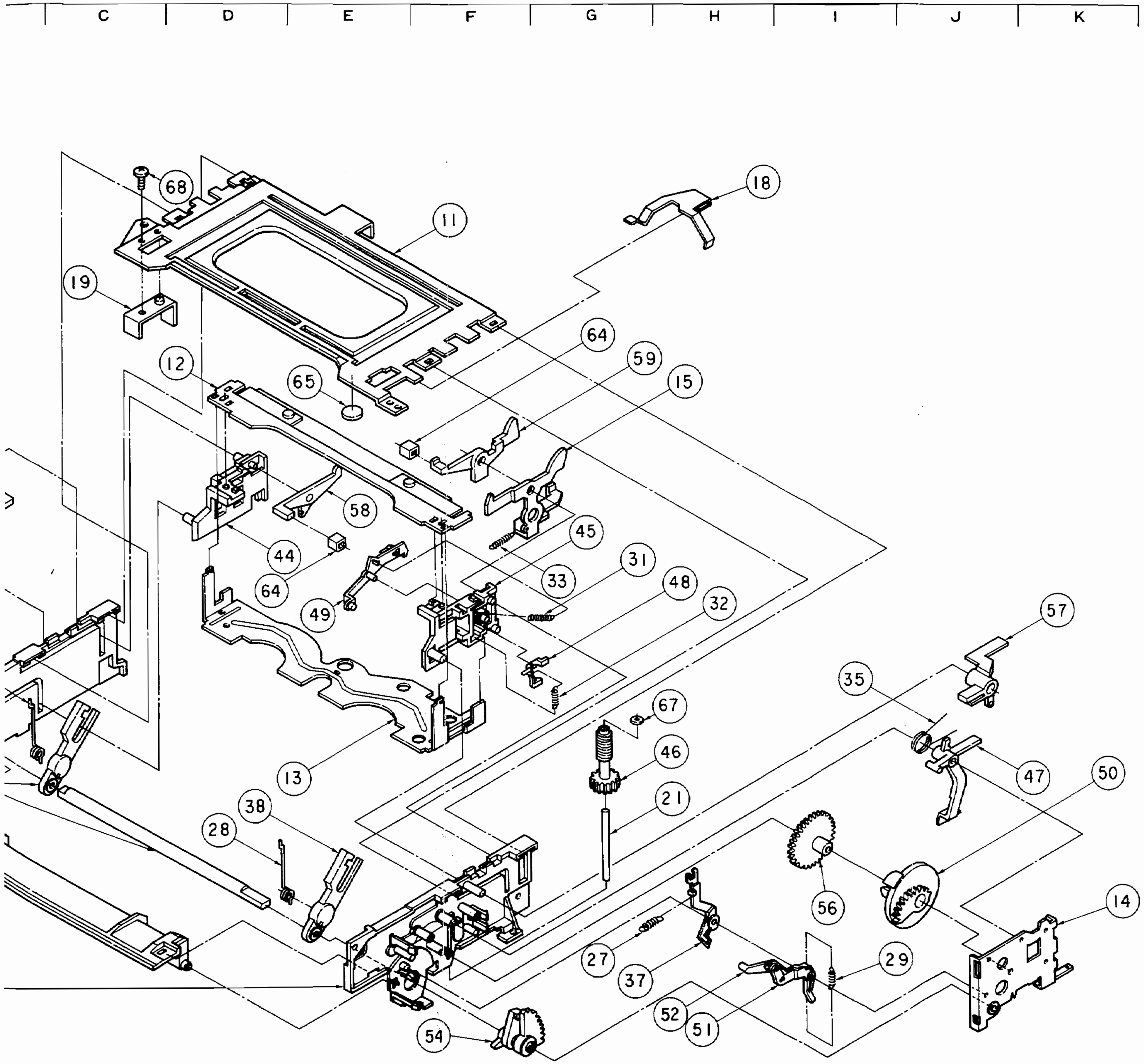


* Settelled Service Parts

ITEM	PARTS No.	*	ADDRESS		PARTS NAME	DESCRIPTION	Qt.
11	591B545010		F-2		PLATE-ROOF		01
12	592C758010		D-3		PLATE-UPPER		01
13	591B546010		E-7		PLATE-BOTTOM		01
14	591B542010		K-8		PLATE-SIDE-TU		01
15	592C851010		H-3		LEVER-LOCK-FL		01
18	596D150010		H-2		PLATE-EARTH		01
19	596D217010		C-3		PLATE-GUARD		01
20	631D134010		A-6		SHAFT-FL		01
21	631D135010		H-7		SHAFT-WORM		01
27	(not used)		G-8				
28	572D301010	○	A-5	D-7	SPRING-FL		02
29	572D389010		J-8		SPRING-DOOR-SUB		01
31	572D304010		G-5		SPRING-OPENER-LID		01
32	572D305010		H-5		SPRING-JUT-FL		01
33	572D380010		G-5		SPRING-LEVER-LOCK		01
35	572D367010		I-6		SPRING-LEVER-SW		01
37	(not used)		G-8				
38	641B315010	○	D-7		ARM-FL		01
39	641B315020	○	A-7		ARM-FL		01
40	641A110010		A-6		HOLDER-SIDE-SP		01
41	641A109010		A-8		HOLDER-SIDE-TU		01
42	641B306010		A-7		GUIDE-INSERT		01
44	641B309010		D-5		HOUSING-CASSETTE-SP		01
45	641B307010		G-5		HOUSING-CASSETTE-TU		01
46	621D513010	○	H-6		GEAR-WORM-FL		01
47	621D514010		K-7		LEVER-SW-FL		01
48	621D515010	○	H-5		JUT		01
49	641C794010		E-5		OPENER-LID-CAS		01
50	641C793010	○	K-7		GEAR-DRIVE		01
51	641C897010	○	H-9		ARM-FL-DOOR-A		01
52	641C898010	○	H-9		ARM-FL-DOOR-B		01
54	641C858010	○	F-9		ARM-LOCK		01
56	641C814010	○	I-8		GEAR-W-H-F/L		01
57	641C857010		K-5		LEVER-PICK-CAS		01
58	621D585010		E-4		LEVER-CAS-SP		01
59	621D586010		G-3		LEVER-CAS-TU		01
60	641C878010		A-4		STOPPER-SP-FL		01
64	642D494010		D-5	G-3	RUBBER-FL		02
65	(not used)		E-3				
67	552C001040	○	H-6		WASHER-THRUST	3 T0.25	01
68	--------		D-2		SCREW	2.6-5	01

SCHEMATIC DIAGRAM

NOTE 1:

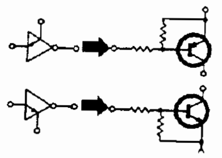
1. DC voltages were measured from points indicated to the circuit ground with a digital voltmeter.
2. The voltages parenthesised are on SP recording mode. While those without parenthesised on SP play back mode.

NOTE 2:

1. The unit of resistance "ohm" entirely omitted.
   Accordingly, K = 1000 ohms
   M = 1000K ohms.
2. The wattage of resistor, not specifically designated, is 1/4 watt except CHIP resistors.
3. Resistors, not specifically designated, are carbon resistors except CHIP resistors.
4. The marks of resistors are as follows.
   - CE : Cemented resistor
   - MB : Metal oxide film resistor (type B)
   - Ⓢ : Fixed composition resistors
   - Ⓦ : Wire wound resistor
   - Ⓜ : Metal film resistor
5. The tolerance of resistor value, not specifically designated, is: ±5%, K = ±10% M = ±20%
6. The unit of capacitance, not specifically designated, is:
   a) μF , for numbers less than 1
   b) PF, for numbers more than 1
7. Capacitors, not specifically designated are Ceramic capacitors except electrolytic capacitors.
8. The marks of capacitors are as follows:
   - ALM : Aluminus electrolytic capacitor
   - MF : Polyester capacitor
   - PP : Polypropylene film capacitor
   - TAN : Tentalum capacitor
   - SC : Semiconductor Ceramic Capacitors
   - TF : Twin film capacitor
   - NP : Non polarized electrolytic capacitor
   - ✱ : Electrolytic capacitor
9. The DC working voltage of capacitor, not specifically designated is: 50V
10. The tolerance of capacitor value, not specifically designated is: ±10%
    and J = ±5% K = ±10% M = ±20% $P = \frac{+100\%}{-\ \ 0\%}$
    C = ±0.25PF D = ±0.5PF F = ±1PF $Z = \frac{+80\%}{-20\%}$ N=±30%
11. Ceramic capacitors with the marks RH, UJ, SL, etc. are temperature compensating types.

SPECIFIC SYMBOL

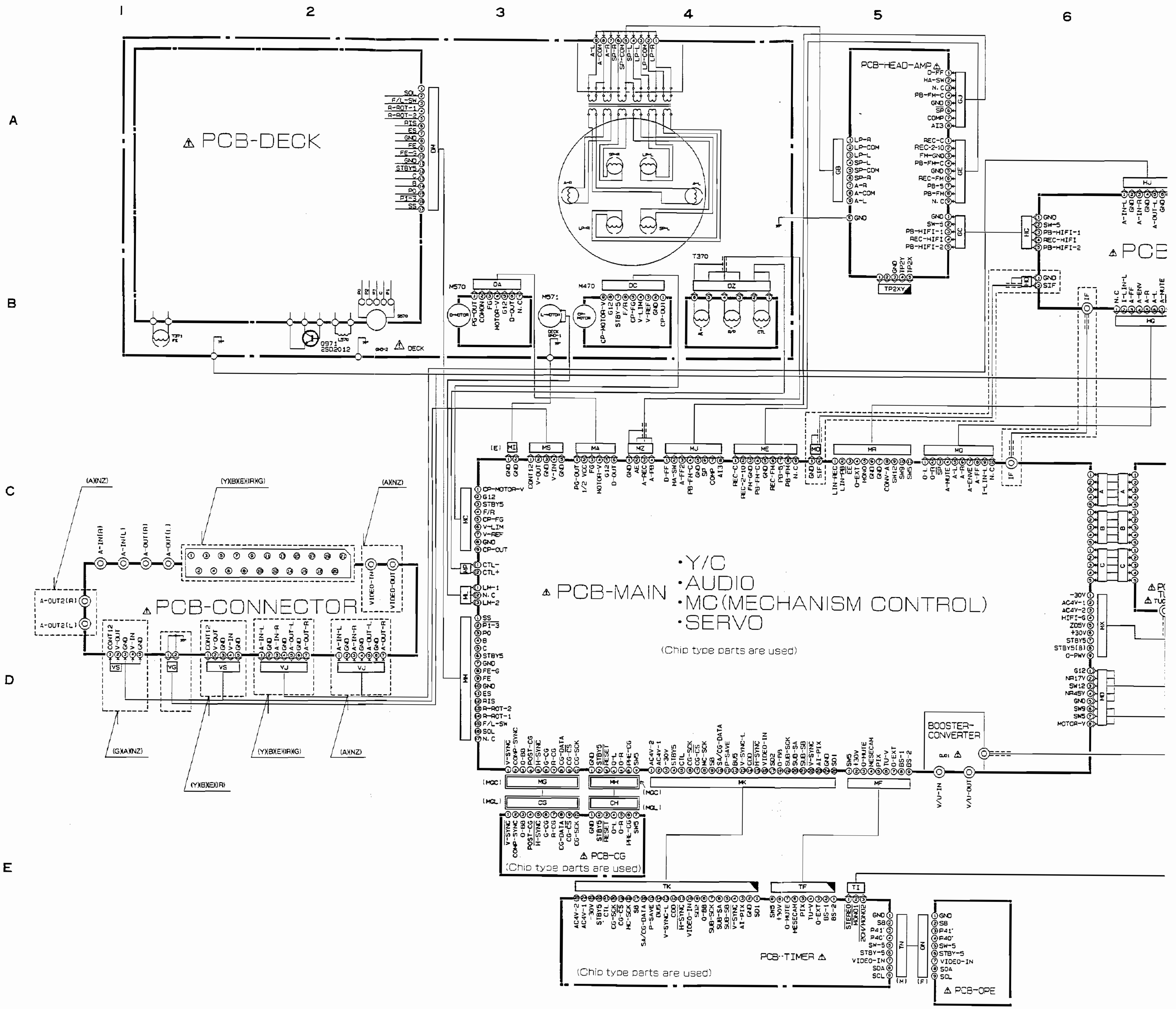
- Zener Diode
- Varicap
- Posistor
- Thermistor
- Fusible Resistor
- Crystal unit
- LE Diode
- Photo Diode
- Ceramic filter



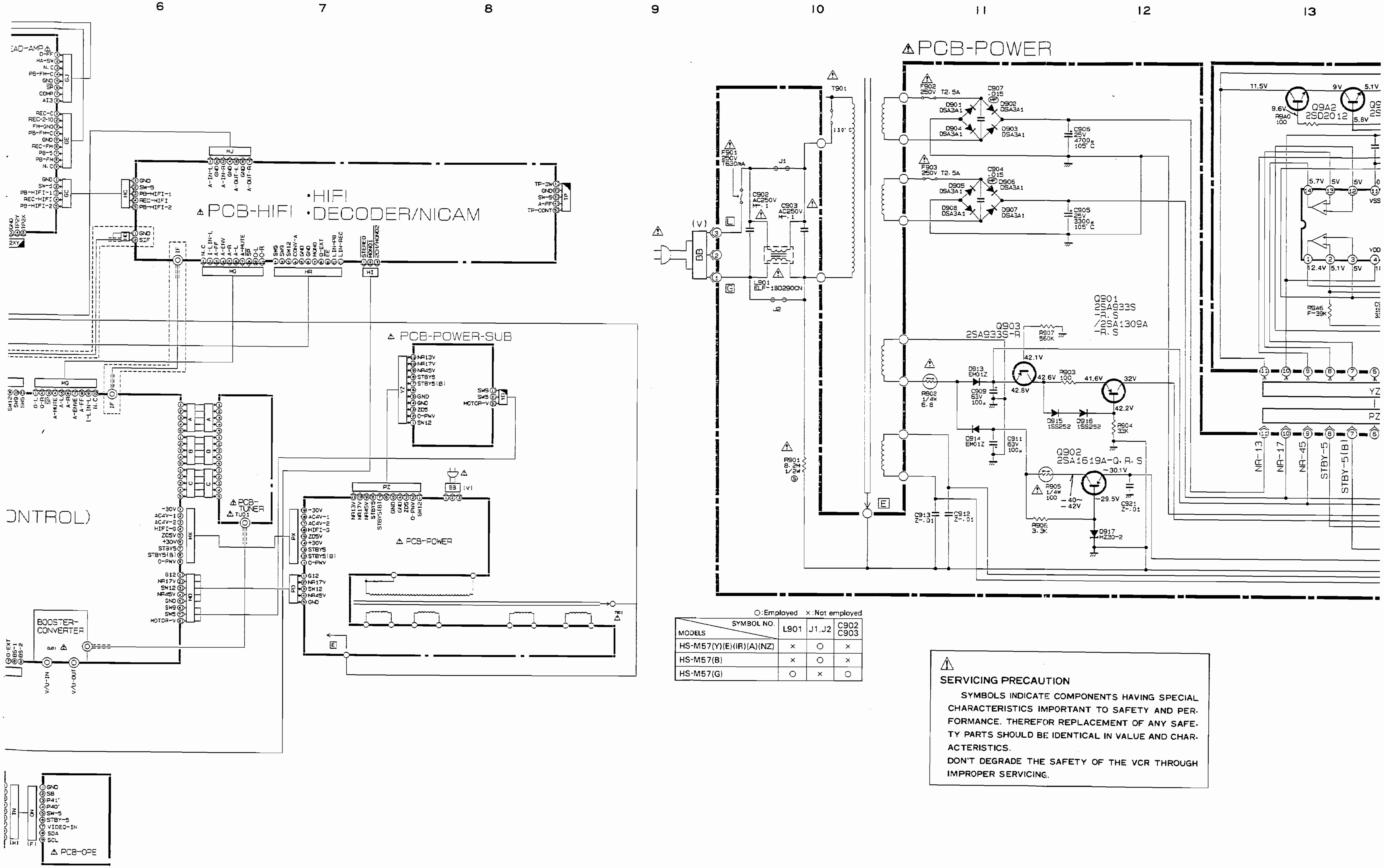
PNP DIGITAL TRANSISTOR

NPN DIGITAL TRANSISTOR

This is a basic schematic diagram. Some sets may be subject to modification according to engineering improvement.



1
2
3
4
5
6
A
B
C
D
E
⚠ PCB-DECK
SOL
F/L-SW
R-ROT-1
R-ROT-2
RIS
ES
GND
FE
FE-G
GND
STBY5
C
B
PO
P1-3
SS
DH
T371
0971
2SD2012
L370
S570
⚠ DECK
M570
DA
PG-OUT
COMON
FG
MOTOR-V
G12
D-OUT
N.C
M571
M470
DC
CP-MOTOR-V
G12
STBY5
F/R
CP-FG
V-LIM
V-REF
GND
CP-OUT
T370
DZ
A-L
A-COM
A-R
SP-R
SP-COM
SP-L
LP-L
LP-COM
LP-R
PCB-HEAD-AMP ⚠
D-FF
HA-SW
N.C
PB-FM-C
GND
SP
COMP
AI3
REC-C
REC-2-10
FM-GND
PB-FM-C
GND
REC-FM
PB-5
PB-FM
N.C
GND
SW-5
PB-HIFI-1
REC-HIFI
PB-HIFI-2
GB
GE
GC
GJ
TP2XY
HJ
HC
HG
⚠ PCB
SIF
IF
(AXNZ)
(YXBXEXIRXG)
A-IN(R)
A-IN(L)
A-OUT(R)
A-OUT(L)
VIDEO-IN
VIDEO-OUT
A-OUT2(R)
A-OUT2(L)
⚠ PCB-CONNECTOR
CONT12
V-OUT
GND
V-IN
GND
VS
VG
VJ
A-IN-L
A-IN-R
A-OUT-L
A-OUT-R
(GXAXNZ)
(YXBXEXIRXG)
(AXNZ)
(YXBXEXIR)
(E)
MI
MS
MA
MZ
MJ
ME
MO
MR
MQ
MC
MP
ML
MH
⚠ PCB-MAIN
•Y/C
•AUDIO
•MC (MECHANISM CONTROL)
•SERVO
(Chip type parts are used)
CTL-
CTL+
LM-1
N.C
LM-2
-30V
AC4V-1
AC4V-2
HIFI-G
ZD5V
+30V
STBY5
STBY5(8)
O-PWV
MX
G12
NR17V
SW12
NR45V
GND
SW9
SW5
MOTOR-V
MD
⚠ PCB
⚠ TU
BOOSTER-CONVERTER
⚠
V/U-IN
V/U-OUT
(MGC)
(MGL)
MG
MH
MK
MF
CG
CH
(MOC)
(MOL)
V-SYNC
COMP-SYNC
O-BB
POST-CG
H-SYNC
G-CG
R-CG
CG-DATA
CG-CS
CG-SCK
GND
STBY5
RESET
O-L
O-R
PHE-CG
SW5
⚠ PCB-CG
(Chip type parts are used)
TK
TF
TI
AC4V-2
AC4V-1
-30V
STBY5
CTL
CG-SCK
CG-CS
MC-SCK
SB
SA/CG-DATA
P-SAVE
BU5
V-SYNC-L
CDD
H-SYNC
VIDEO-IN
SD2
O-RR
SUB-SCK
SUB-SA
SUB-SB
V-SYNC
AI-PIX
GND
SD1
SW5
+30V
O-MUTE
MESECAM
PIX
TU-V
O-EXT
BS-1
BS-2
STEREO
MONO1
2CH/MONO2
PCB-TIMER ⚠
(Chip type parts are used)
GND
SB
P41
P40
SW-5
STBY-5
VIDEO-IN
SDA
SCL
TN
QN
(M)
(F)
⚠ PCB-OPE


6
7
8
9
10
11
12
13
⚠PCB-POWER
⚠PCB-HIFI
•HIFI
•DECODER/NICAM
⚠PCB-POWER-SUB
⚠PCB-POWER
⚠PCB-TUNER
⚠PCB-OPE
BOOSTER-CONVERTER
ONTROL)
T901
F901 250V T630mA
F902 250V T2.5A
F903 250V T2.5A
L901 ELF-18D290CN
J1
J2
C902 AC250V
C903 AC250V
Q901 2SA933S -R, S /2SA1309A -R, S
Q902 2SA1619A-Q, R, S
Q903 2SA933S-R
Q9A2 2SD2012
D901 DSA3A1
D902 DSA3A1
D903 DSA3A1
D904 DSA3A1
D905 DSA3A1
D906 DSA3A1
D907 DSA3A1
D908 DSA3A1
C905 25V 4700μ 105°C
C905 25V 3300μ 105°C
D913 EM01Z
D914 EM01Z
D915 1SS252
D916 1SS252
D917 HZ30-2
R901 8.2M 1/2W
R902 1/4W 6.8
R903 100
R904 33K
R905 1/4W 100
R906 3.3K
R907 560K
42.1V
42.6V
42.8V
41.6V
32V
42.2V
-30.1V
-29.5V
-40~-42V
11.5V
9V
5.1V
9.6V
5.8V
NR-13
NR-17
NR-45
STBY-5
STBY-5(B)

O:Employed ×:Not employed

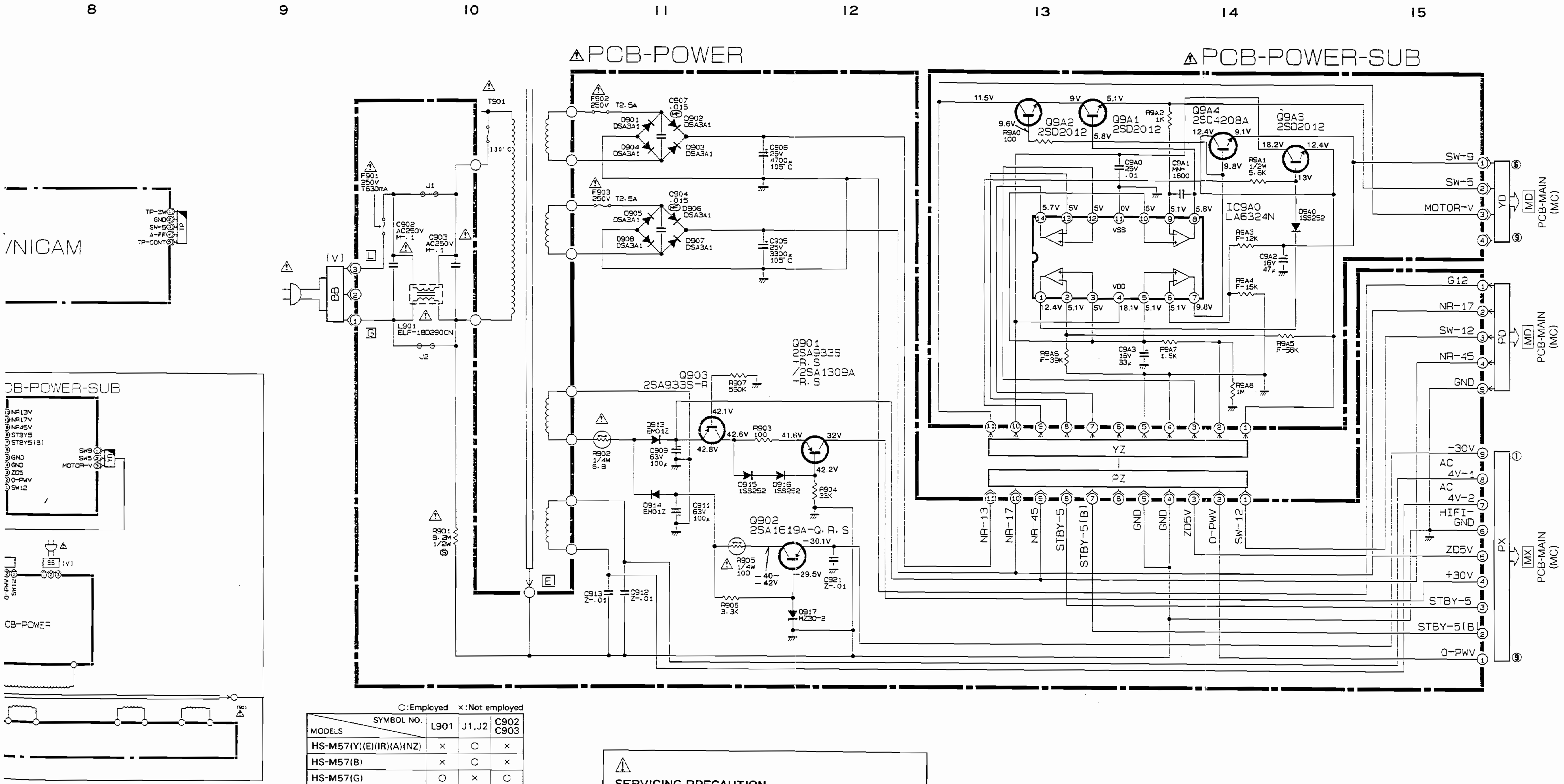
MODELS / SYMBOL NO.	L901	J1,J2	C902 C903
HS-M57(Y)(E)(IR)(A)(NZ)	×	○	×
HS-M57(B)	×	○	×
HS-M57(G)	○	×	○

⚠

SERVICING PRECAUTION

SYMBOLS INDICATE COMPONENTS HAVING SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY AND PERFORMANCE. THEREFOR REPLACEMENT OF ANY SAFETY PARTS SHOULD BE IDENTICAL IN VALUE AND CHARACTERISTICS.

DON'T DEGRADE THE SAFETY OF THE VCR THROUGH IMPROPER SERVICING.


8
9
10
11
12
13
14
15
⚠PCB-POWER
⚠PCB-POWER-SUB
T901
F901 250V T630mA
F902 250V T2.5A
F903 250V T2.5A
J1
J2
C902 AC250V
C903 AC250V
L901 ELF-18D290CN
D901 DSA3A1
D902 DSA3A1
D903 DSA3A1
D904 DSA3A1
D905 DSA3A1
D906 DSA3A1
D907 DSA3A1
D908 DSA3A1
C904 .015
C907 .015
C906 25V 4700μ 105°C
C905 25V 3300μ 105°C
Q901 2SA933S -R.S /2SA1309A -R.S
Q902 2SA1619A-Q.R.S
Q903 2SA933S-R
R901 8.2W 1/2W
R902 1/4W 6.8
R903 100
R904 33K
R905 1/4W 100
R906 3.3K
R907 560K
D913 EM01Z
D914 EM01Z
D915 1SS252
D916 1SS252
D917 HZ30-2
C909 63V 100μ
C911 63V 100μ
C912 Z-.01
C913 Z-.01
C921 Z-.01
42.1V
42.6V
42.8V
41.6V
32V
42.2V
-30.1V
-40~-42V
-29.5V
Q9A1 2SD2012
Q9A2 2SD2012
Q9A3 2SD2012
Q9A4 2SC4208A
IC9A0 LA6324N
D9A0 1SS252
R9A0 100
R9A1 1/2W 5.6K
R9A2 1K
R9A3 F-12K
R9A4 F-15K
R9A5 F-56K
R9A6 F-39K
R9A7 1.5K
R9A8 1M
C9A0 25V .01
C9A1 MN-1800
C9A2 16V 47μ
C9A3 16V 33μ
11.5V
9V
5.1V
9.6V
5.8V
12.4V
9.1V
18.2V
12.4V
9.8V
13V
VSS
VDD
YZ
PZ
NR-13
NR-17
NR-45
STBY-5
STBY-5(B)
GND
GND
ZD5V
O-PWV
SW-12
SW-9
SW-5
MOTOR-V
YD
MD
PCB-MAIN (MC)
G12
NR-17
SW-12
NR-45
GND
PD
-30V
AC 4V-1
AC 4V-2
HIFI-GND
ZD5V
+30V
STBY-5
STBY-5(B)
O-PWV
PX
MX
/NICAM
TP-SW
GND
SW-5
A-FF
TP-CONT
TP
CB-POWER-SUB
NR13V
NR17V
NR45V
STBY5
STBY5(B)
GND
GND
ZD5
O-PWV
SW12
SW9
SW5
MOTOR-V
YD
CB-POWER
BB
(V)
E
L
G

○:Employed ×:Not employed

SYMBOL NO. / MODELS	L901	J1,J2	C902 C903
HS-M57(Y)(E)(IR)(A)(NZ)	×	○	×
HS-M57(B)	×	○	×
HS-M57(G)	○	×	○

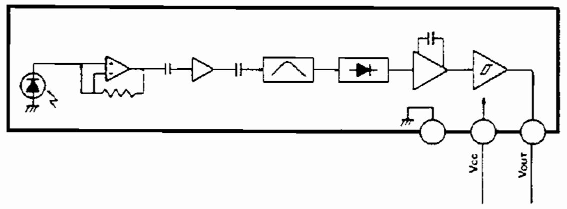
⚠

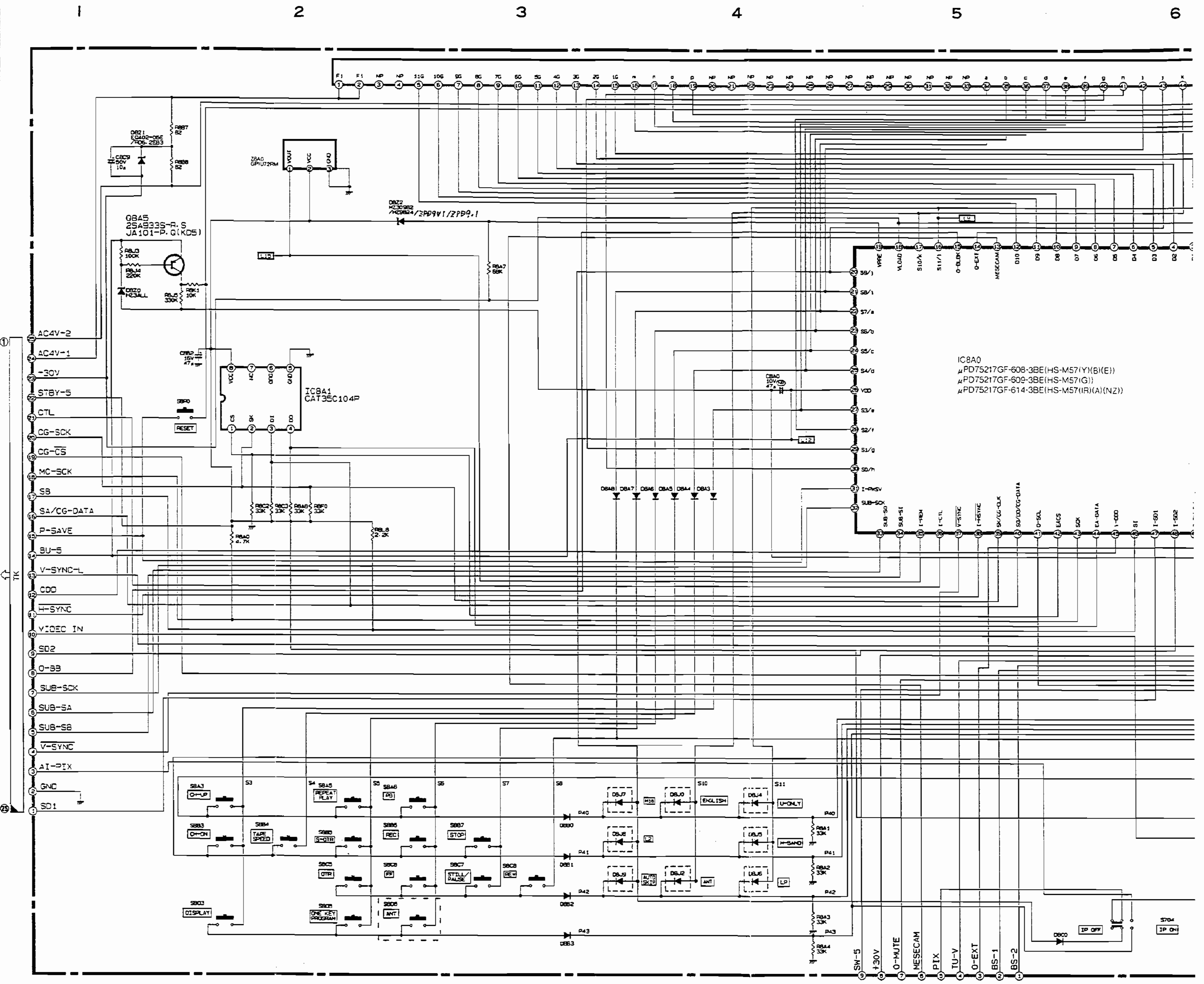
SERVICING PRECAUTION

SYMBOLS INDICATE COMPONENTS HAVING SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY AND PERFORMANCE. THEREFOR REPLACEMENT OF ANY SAFETY PARTS SHOULD BE IDENTICAL IN VALUE AND CHARACTERISTICS.

DON'T DEGRADE THE SAFETY OF THE VCR THROUGH IMPROPER SERVICING.

Z8A0
PREAMP-REMOTE CONTROL

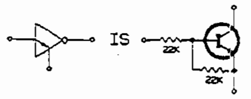


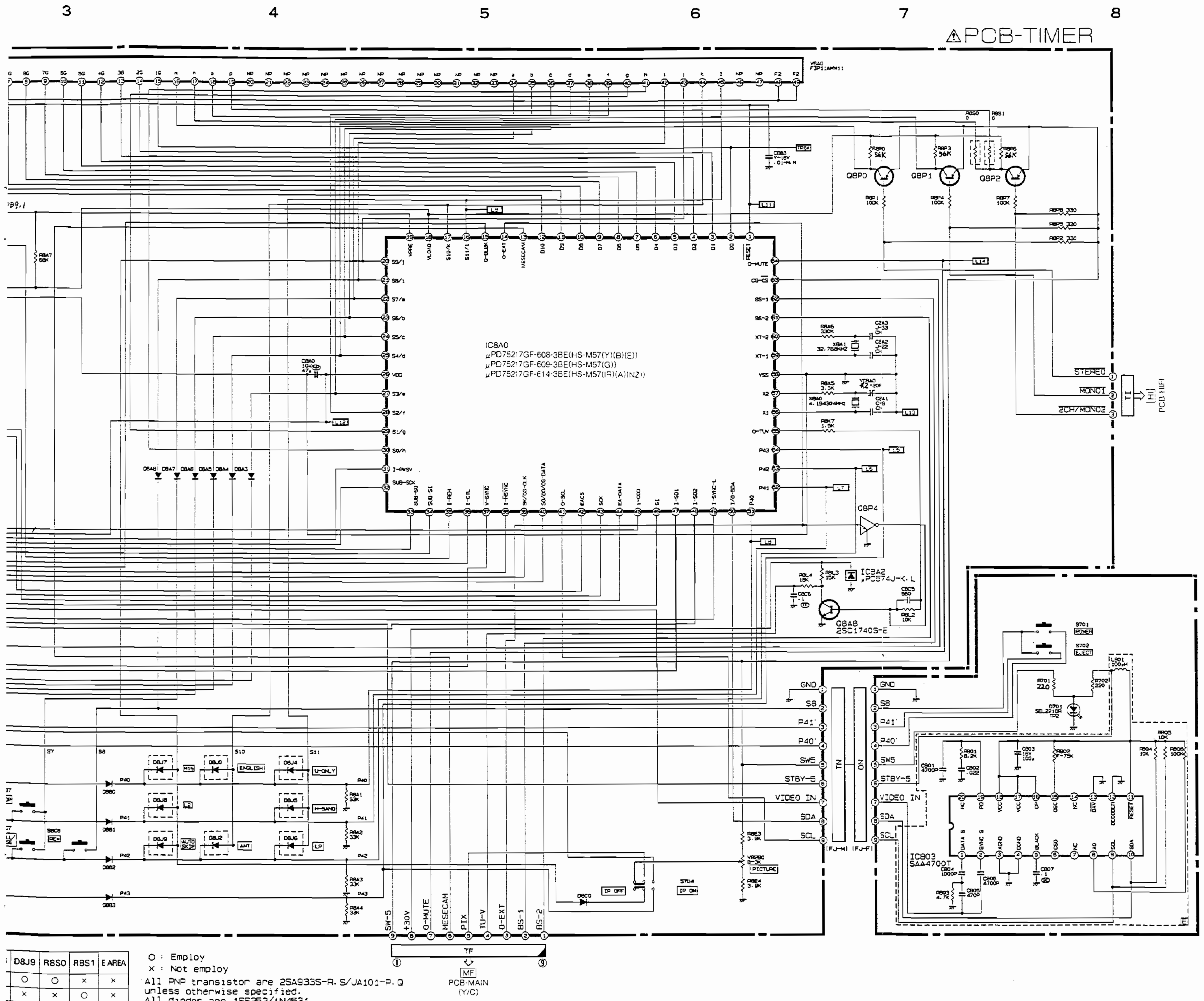

1
2
3
4
5
6
B
C
D
E
F1
F1
NP
Z8A0
GP1U72RM
Vout
Vcc
GND
D8Z1
EG402-060
/RD6.2EB3
C8C9
50V
1μ
R8B7
82
R8B8
82
Q8A5
2SA933S-R.S
JA101-P.Q(KDS)
R8J3
100K
R8J4
220K
D8Z0
HZ3ALL
R8J5
330K
R8K1
10K
D8Z2
HZ3CB2
/HZ9B2
R8A7
68K
C8B0
16V
47μ
IC8A1
CAT35C104P
VCC
NC
ORG
GND
CS
SK
DI
DO
S8F0
RESET
R8C2
33K
R8C3
33K
R8A6
33K
R8F0
33K
R8A0
4.7K
R8L8
2.2K
C8A0
10V
47μ
IC8A0
μPD75217GF-608-3BE(HS-M57(Y)(B)(E))
μPD75217GF-609-3BE(HS-M57(G))
μPD75217GF-614-3BE(HS-M57(IR)(A)(NZ))
VPRE
VLOAD
S10/k
S11/l
O-BLNK
O-EXT
MESECAM
S9/j
S8/i
S7/e
S6/b
S5/c
S4/d
VDD
S3/e
S2/f
S1/g
S0/h
I-PKSV
SUB-SCK
D8A8
D8A7
D8A6
D8A5
D8A4
D8A3
AC4V-2
AC4V-1
-30V
STBY-5
CTL
CG-SCK
CG-CS
MC-SCK
SB
SA/CG-DATA
P-SAVE
BU-5
V-SYNC-L
CDD
H-SYNC
VIDEO IN
SD2
O-BB
SUB-SCK
SUB-SA
SUB-SB
V-SYNC
AI-PIX
GND
SD1
PCB-MAIN
(MC)
MK
TK
①
㉕
S8A3
CH-UP
S8B3
CH-DN
S8B4
TAPE SPEED
S8A5
REPEAT PLAY
S8A6
PG
S8B5
S-QTR
S8B6
REC
S8B7
STOP
S8C5
QTR
S8C6
FF
S8C7
STILL/PAUSE
S8C8
REW
S8D3
DISPLAY
S8D5
ONE KEY PROGRAM
S8D6
ANT
D8J7
D8J0
D8J4
D8J6
D8J5
D8J9
D8J2
ENGLISH
U-ONLY
H-BAND
AUTO SKIP
LP
P40
P41
P42
P43
D8B0
D8B1
D8B2
D8B3
R8A1
33K
R8A2
33K
R8A3
33K
R8A4
33K
D8C0
IP OFF
S704
IP ON
SW-5
+30V
O-MUTE
MESECAM
PIX
TU-V
O-EXT
BS-1
BS-2
TF
①
⑨
MF
PCB-MAIN
(Y/C)

SYMBOL NO. MODELS	D8J0	D8J2	D8J4	D8J5	A AREA	B AREA	C AREA	S8D6	D8J9	R8S0	R8S1	E AREA
HS-M57(Y)	×	×	×	×	○	×	○	×	○	○	×	×
HS-M57(B)	○	×	○	×	×	○	×	×	×	×	○	×
HS-M57(G)	×	×	×	×	○	×	○	×	○	○	×	○
HS-M57(IR)	○	×	×	×	×	○	×	×	×	×	○	×
HS-M57(E)	×	×	×	○	○	×	○	×	×	×	○	×
HS-M57(A)	×	○	×	×	×	○	×	○	×	○	×	×
HS-M57(NZ)	×	○	×	×	×	○	×	○	×	×	○	×

○ : Employ
× : Not employ

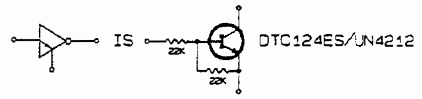
All PNP transistor are 2SA933S-R.S/JA101-P.Q
unless otherwise specified.
All diodes are 1SS252/1N4531
unless otherwise specified.


IS
22K
22K
DTC124ES/UN4212

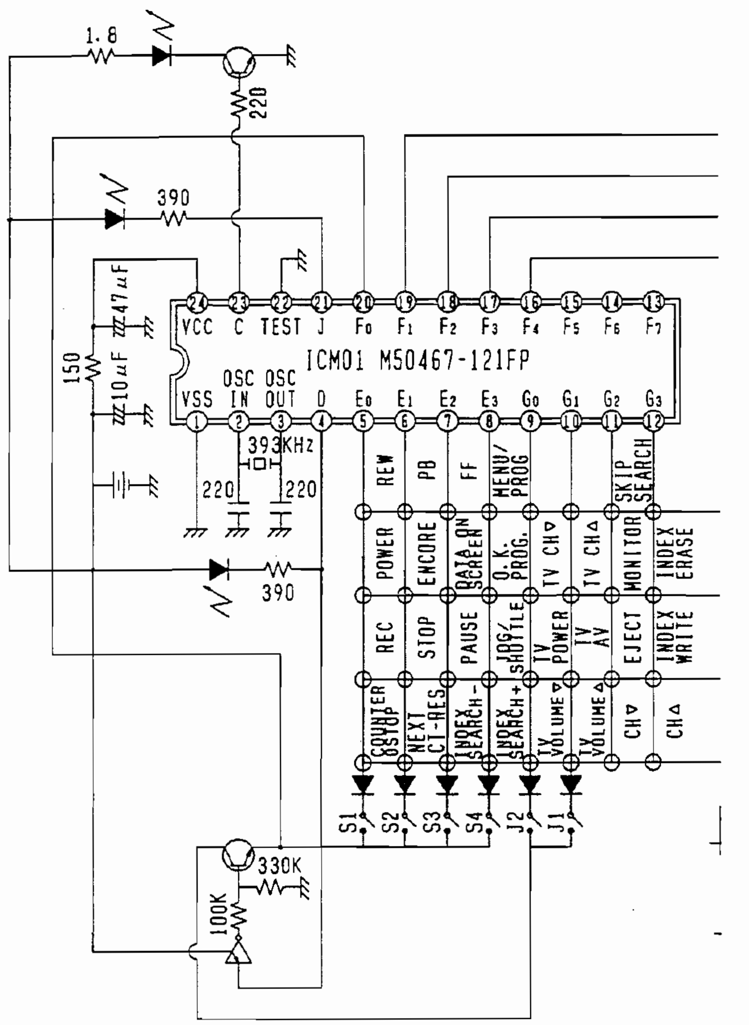

3
4
5
6
7
8
⚠PCB-TIMER
V8A0
F1P1AMY11
F2
Q8P0
Q8P1
Q8P2
R8P0 56K
R8P3 56K
R8P6 56K
R8P1 100K
R8P4 100K
R8P7 100K
R8S0 0
R8S1 0
R8P8 330
R8P9 330
R8P2 330
C8B3 Y-16V .01-M N
TDD4
R8A7 68K
L9
L11
L14
L12
L13
L5
L6
L7
L8
L3
IC8A0
µPD75217GF-608-3BE(HS-M57(Y)(B)(E))
µPD75217GF-609-3BE(HS-M57(G))
µPD75217GF-614-3BE(HS-M57(IR)(A)(NZ))
VPRE
VLOAD
S10/k
S11/l
O-BLBK
O-EXT
MESECAM
D10
D9
D8
D7
D6
D5
D4
D3
D2
D1
D0
RESET
S9/j
S8/i
S7/e
S6/b
S5/c
S4/d
VDD
S3/e
S2/f
S1/g
S0/h
I-PWSV
SUB-SCK
SUB-SO
SUB-SI
I-REM
I-CTL
V-SYNC
I-HSYNC
SK/CG-CLK
SO/DO/CG-DATA
O-SCL
EACS
SCK
EA-DATA
I-COD
SI
I-SD1
I-SD2
I-SYNC-L
I/O-SDA
P40
O-MUTE
CG-CS
BS-1
BS-2
XT-2
XT-1
VSS
X2
X1
O-TUN
P43
P42
P41
C8A0 10V 47µ
R8A6 330K
X8A1 32.768KHZ
C8A3 CH 33
C8A2 CH 22
R8A5 3.3K
VC8A0 4.2-20P
X8A0 4.194304MHZ
C8A1 CH 5
R8K7 1.5K
Q8P4
STEREO
MONO1
2CH/MONO2
TI
PCB-HiFi
D8A8
D8A7
D8A6
D8A5
D8A4
D8A3
R8L4 18K
R8L3 15K
IC8A2
µPC574J-K. L
C8C6 .1
C8C5 560
R8L2 10K
Q8A8
2SC1740S-E
S7
S8
S10
S11
D8J7
D8J0
D8J4
M16
ENGLISH
U-ONLY
D8B0
D8J8
D8J5
L2
H-BAND
D8B1
S8C8
REW
D8J9
D8J2
D8J6
AUTO SKIP
ANT
LP
D8B2
D8B3
P40
P41
P42
P43
R8A1 33K
R8A2 33K
R8A3 33K
R8A4 33K
R8E3 3.9K
VR8B0 B-3K
PICTURE
R8E4 3.9K
D8C0
IP OFF
S704
IP ON
SW-5
+30V
O-MUTE
MESECAM
PIX
TU-V
O-EXT
BS-1
BS-2
TF
MF
PCB-MAIN (Y/C)
GND
S8
P41'
P40'
SW5
STBY-5
VIDEO IN
SDA
SCL
TN
ON
FJ-M
FJ-F
S701
POWER
S702
EJECT
R701 220
R702 220
D701 SEL2210R TP2
L801 100µH
R805 10K
R804 10K
R806 100K
C801 4700P
R801 8.2K
C802 .022
C803 16V 100µ
R802 F-75K
IC803
SAA4700T
NC
PD
VCC
CP
OSC
DAV
DECODER
RESET
DATA S
SYNC S
AGND
DGND
BLACK
CSO
A0
C804 1000P
R803 4.7K
C805 470P
C806 4700P
C807 .1

D8J9	R8S0	R8S1	E AREA
○	○	×	×
×	×	○	×
○	○	×	○
×	×	○	×
×	×	○	×
×	○	×	×
×	×	○	×

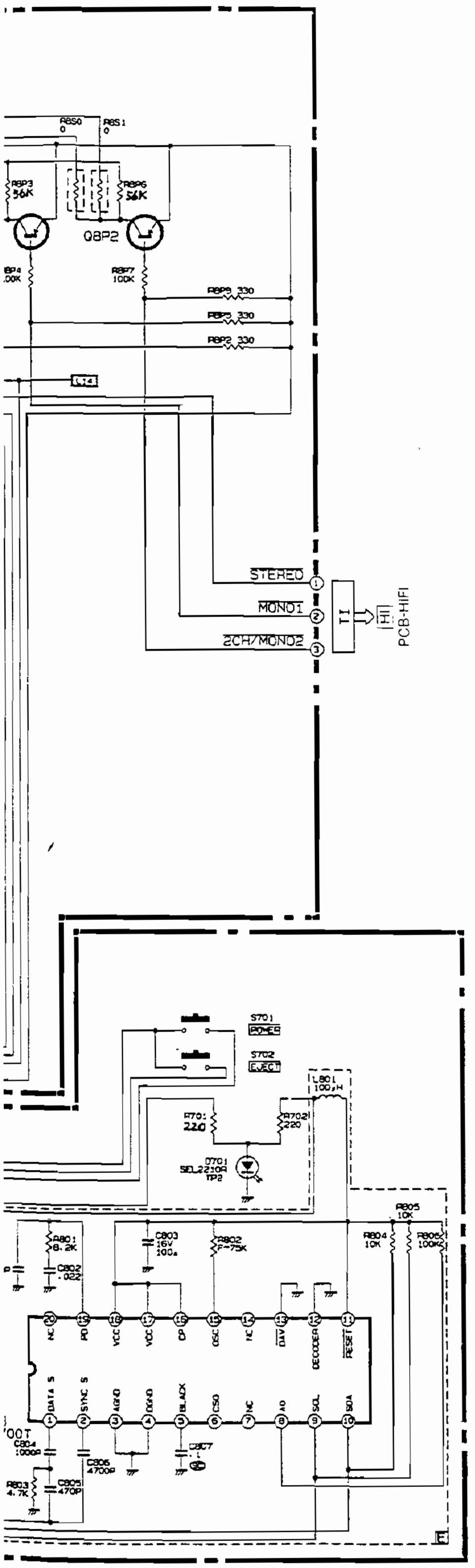
○ : Employ
× : Not employ
All PNP transistor are 2SA933S-R. S/JA101-P. Q
unless otherwise specified.
All diodes are 1SS252/1N4531
unless otherwise specified.


IS
22K
22K
DTC124ES/UN4212

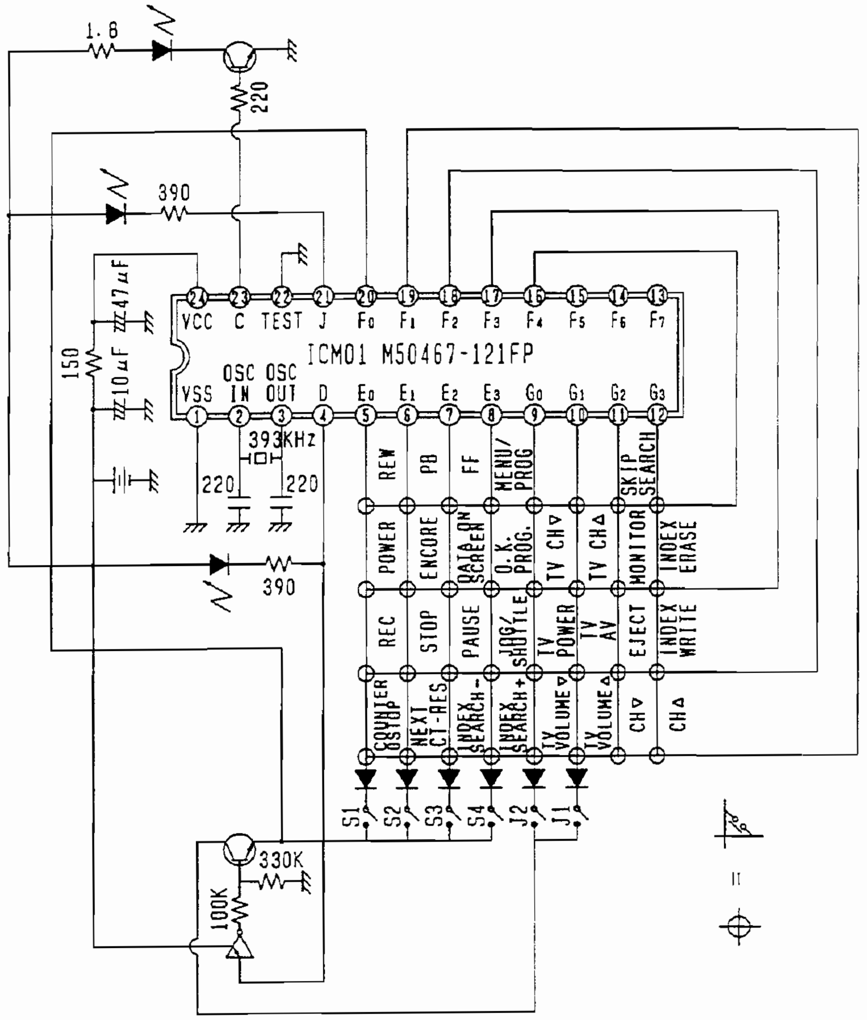
TRANSMITTER REMOTE CO


9
10
1.8
220
390
390
47µF
10µF
150
ICM01 M50467-121FP
VCC
C
TEST
J
F0
F1
F2
F3
F4
F5
F6
F7
VSS
OSC IN
OSC OUT
D
E0
E1
E2
E3
G0
G1
G2
G3
393KHz
220
220
REW
PB
FF
MENU/PROG
SKIP SEARCH
POWER
ENCORE
DATA ON SCREEN
O.K. PROG.
TV CH▽
TV CH△
MONITOR
INDEX ERASE
REC
STOP
PAUSE
JOG/SHUTTLE
TV POWER
TV AV
EJECT
INDEX WRITE
COUNTER 0STOP
NEXT CT-RES
INDEX SEARCH-
INDEX SEARCH+
TV VOLUME▽
TV VOLUME△
CH▽
CH△
S1
S2
S3
S4
J2
J1
330K
100K

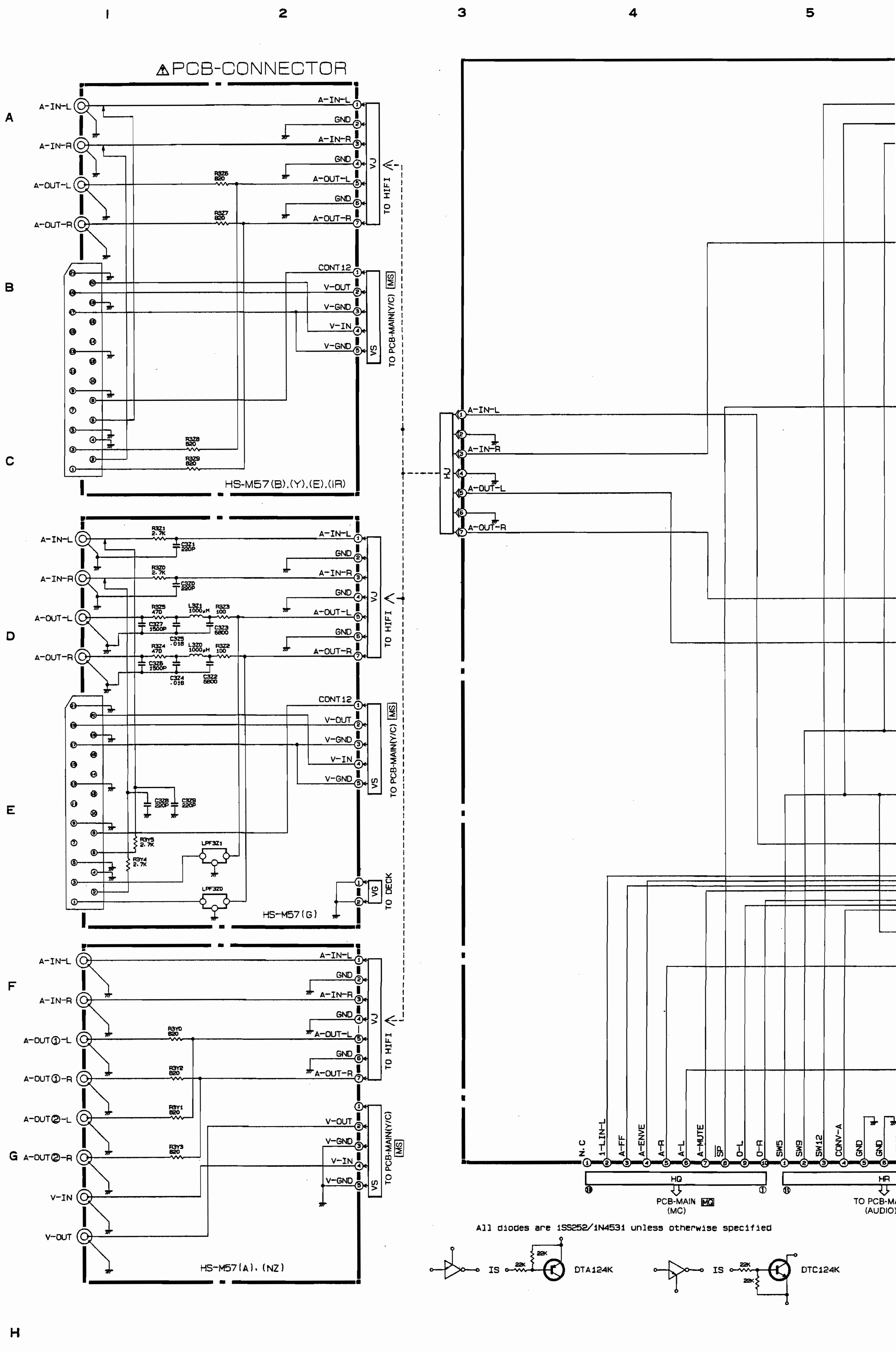
⚠PCB-TIMER


R8S0 0
R8S1 0
R8P3 56K
R8P6 56K
Q8P2
R8P7 100K
R8P5 330
R8P5 330
R8P2 330
STEREO
MONO1
2CH/MONO2
PCB-HIFI
S701 POWER
S702 EJECT
L801 100μH
R701 220
R702 220
D701 SEL2210R
R805 10K
R801 8.2K
C802 .022
C803 16V 100μ
R802 75K
R804 10K
R806 100K
DATA S
SYNC S
AGND
DGND
BLACK
CSO
NC
AO
SCL
SDA
RESET
DECODER
DVI
OSC
CP
VCC
PD
NC
C804 1000P
C806 4700P
R803 4.7K
C805 470P
C807

TRANSMITTER REMOTE CONTROL

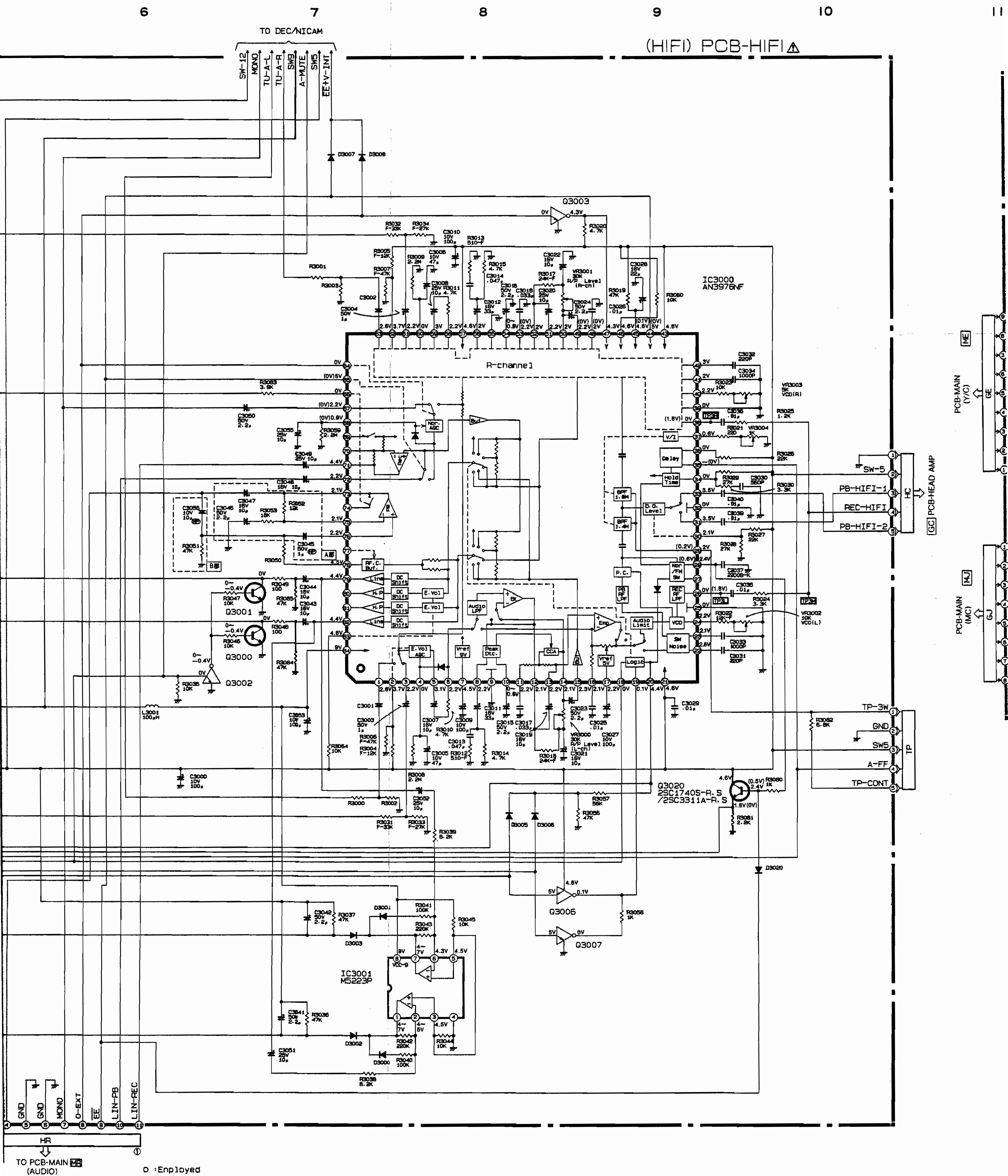

1.8
220
390
390
150
47μF
10μF
ICM01 M50467-121FP
VCC
C
TEST
J
F0
F1
F2
F3
F4
F5
F6
F7
VSS
OSC IN
OSC OUT
D
E0
E1
E2
E3
G0
G1
G2
G3
393KHz
220
220
REW
PB
FF
MENU/PROG
SKIP SEARCH
POWER
ENCORE
DATA ON SCREEN
O.K. PROG.
TV CH▽
TV CH△
MONITOR
INDEX ERASE
REC
STOP
PAUSE
JOG/SHUTTLE
TV POWER
TV AV
EJECT
INDEX WRITE
COUNTER 0STOP
NEXT CT-RES.
INDEX SEARCH-
INDEX SEARCH+
TV VOLUME▽
TV VOLUME△
CH▽
CH△
S1
S2
S3
S4
J2
J1
330K
100K

⚠PCB-CONNECTOR


1
2
3
4
5
A
B
C
D
E
F
G
H
A-IN-L
A-IN-R
A-OUT-L
A-OUT-R
GND
VJ
TO HIFI
CONT12
V-OUT
V-GND
V-IN
VS
TO PCB-MAIN(Y/C) MS
R3Z6 820
R3Z7 820
R3Z8 820
R3Z9 820
HS-M57(B).(Y).(E).(IR)
R3Z1 2.7K
C3Z1 220P
R3Z0 2.7K
C3Z0 220P
R3Z5 470
C3Z7 1500P
L3Z1 1000μH
R3Z3 100
C3Z3 6800
C3Z5 .018
R3Z4 470
C3Z6 1500P
L3Z0 1000μH
R3Z2 100
C3Z4 .018
C3Z2 6800
C3Z8 220P
C3Z9 220P
R3Y5 2.7K
R3Y4 2.7K
LPF3Z1
LPF3Z0
VG
TO DECK
HS-M57(G)
A-OUT①-L
A-OUT①-R
A-OUT②-L
A-OUT②-R
R3Y0 820
R3Y2 820
R3Y1 820
R3Y3 820
HS-M57(A).(NZ)
HJ
N.C
1-LIN-L
A-FF
A-ENVE
A-R
A-L
A-MUTE
SP
O-L
O-R
SW5
SW9
SW12
CONV-A
HQ
PCB-MAIN MQ
(MC)
HR
TO PCB-MA
(AUDIO)
IS
22K
DTA124K
DTC124K

All diodes are 1SS252/1N4531 unless otherwise specified

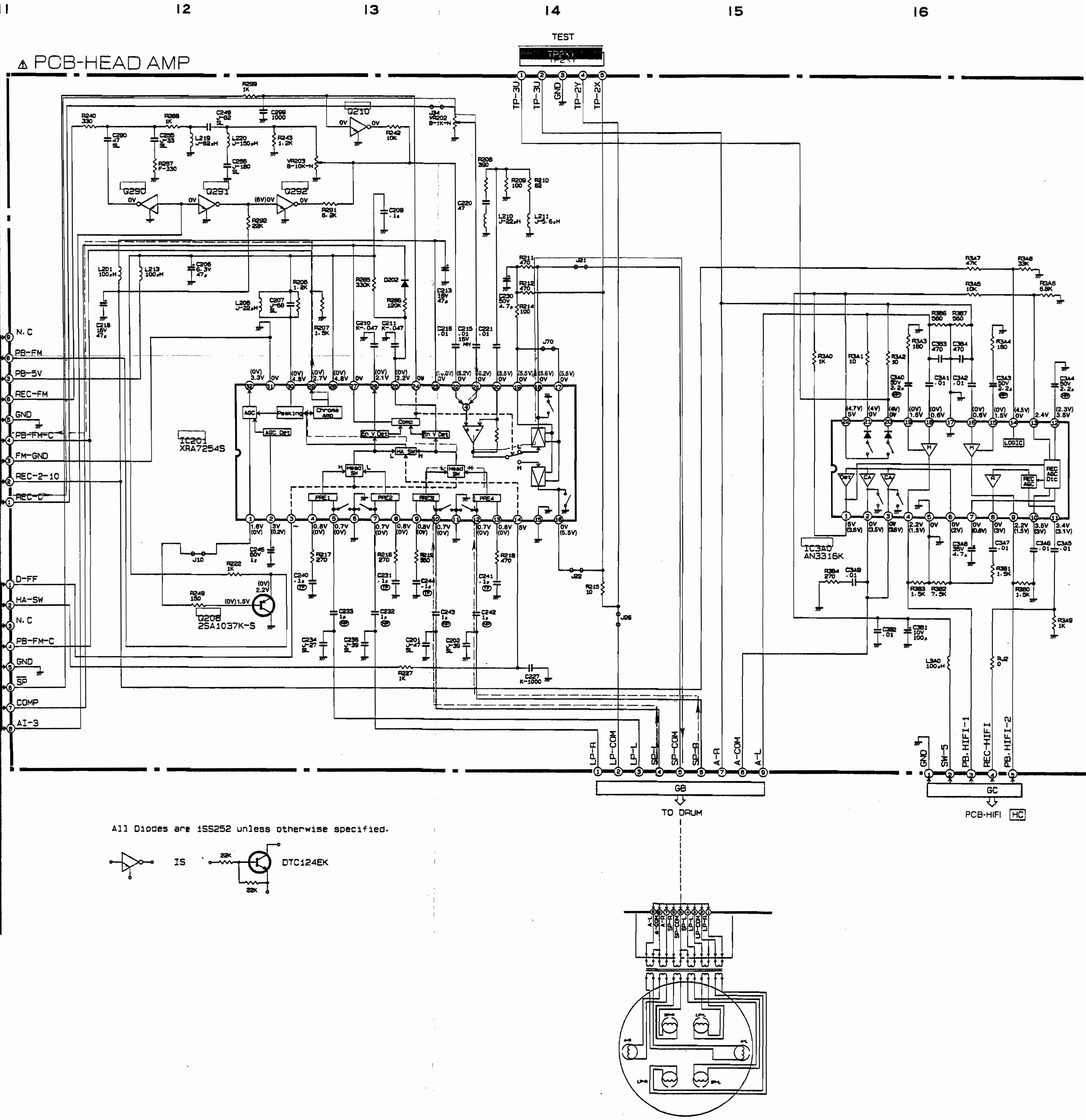
(HIFI) PCB-HIFI ⚠


6
7
8
9
10
11
TO DEC/NICAM
SW-12
MONO
TU-A-L
TU-A-R
SW9
A-MUTE
SW5
EE+V-INT
IC3000
AN3976NF
R-channel
IC3001
M5223P
Q3000
Q3001
Q3002
Q3003
Q3006
Q3007
Q3020
2SC1740S-R.S
/2SC3311A-R.S
PCB-MAIN
(Y/C)
ME
GE
PCB-MAIN
(MC)
MJ
GJ
GC PCB-HEAD AMP
HC
SW-5
PB-HIFI-1
REC-HIFI
PB-HIFI-2
TP
TP-3W
GND
SW5
A-FF
TP-CONT
HR
TO PCB-MAIN MB
(AUDIO)
GND
GND
MONO
O-EXT
EE
LIN-PB
LIN-REC
VR3000
VR3001
VR3002
VR3003
VR3004
Delay
Hold Time
D.O. Level
BPF 1.8M
BPF 1.4M
P.C.
PB RF LPF
Nor /FM SW
REC RF LPF
VCO
SW Noise
Audio Limit
Logic
Emp
Vref 5V
CCA
Peak Dtc.
E.Vol ABC
Audio LPF
E.Vol
DC Shift
Line
H.P
RF.C. Buf.
Nor. ABC
Buf
V/I
D3000
D3001
D3002
D3003
D3005
D3006
D3007
D3008
D3020
L3001 100μH

O :Enployed
X :Not Employed

SYMBOL NO / MODELS	R3000	R3001	R3002	R3003	R3050	C3001	C3002	A AREA	B AREA
HS-M57(Y)	10K	10K	6.8K	6.8K	10K	50V 1μ	50V 1μ	X	○
HS-M57(B)(IR)	0Ω	0Ω	X	X	0Ω	50V 1μ NP	50V 1μ NP	○	X
HS-M57(G)	10K	10K	6.8K	6.8K	10K	50V 1μ	50V 1μ	X	○
HS-M67(A)	10K	10K	6.8K	6.8K	10K	50V 1μ	50V 1μ	X	○
HS-M57(NZ)	0Ω	0Ω	X	X	0Ω	50V 1μ NP	50V 1μ NP	○	X
HS-M57(E)	0Ω	0Ω	X	X	0Ω	50V 1μ NP	50V 1μ NP	○	X

⚠ PCB-HEAD AMP


11
12
13
14
15
16
TEST
TP2Y
TP-3U
TP-3U
GND
TP-2Y
TP-2X
N. C
PB-FM
PB-5V
REC-FM
GND
PB-FM-C
FM-GND
REC-2-10
REC-C
D-FF
HA-SW
N. C
PB-FM-C
GND
SP
COMP
AI-3
IC201
XRA7254S
AGC
Peaking
Chroma AMP
AGC Det
Comp
En V Det
HA SW
Head SW
PRE1
PRE2
PRE3
PRE4
Q210
Q290
Q291
Q292
Q208
2SA1037K-S
VR202
VR203
D202
J10
J21
J22
J26
J70
IC3A0
AN3316K
LOGIC
REC AGC Dtc
Det
LP-R
LP-COM
LP-L
SP-L
SP-COM
SP-R
A-R
A-COM
A-L
GB
TO DRUM
GND
SW-5
PB.HIFI-1
REC-HIFI
PB.HIFI-2
GC
PCB-HIFI
HC

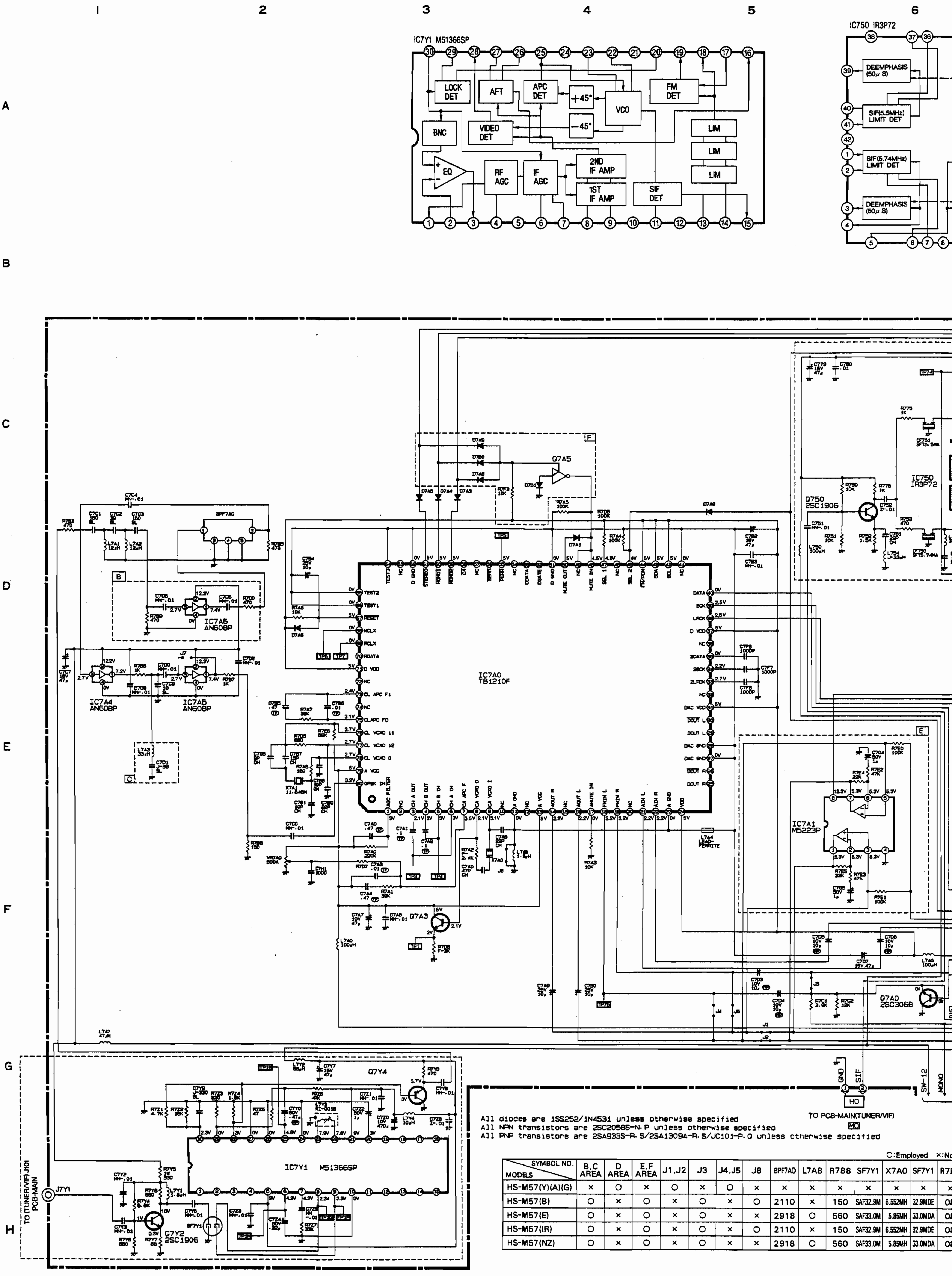
All Diodes are 1SS252 unless otherwise specified.

IS

22K

22K

DTC124EK

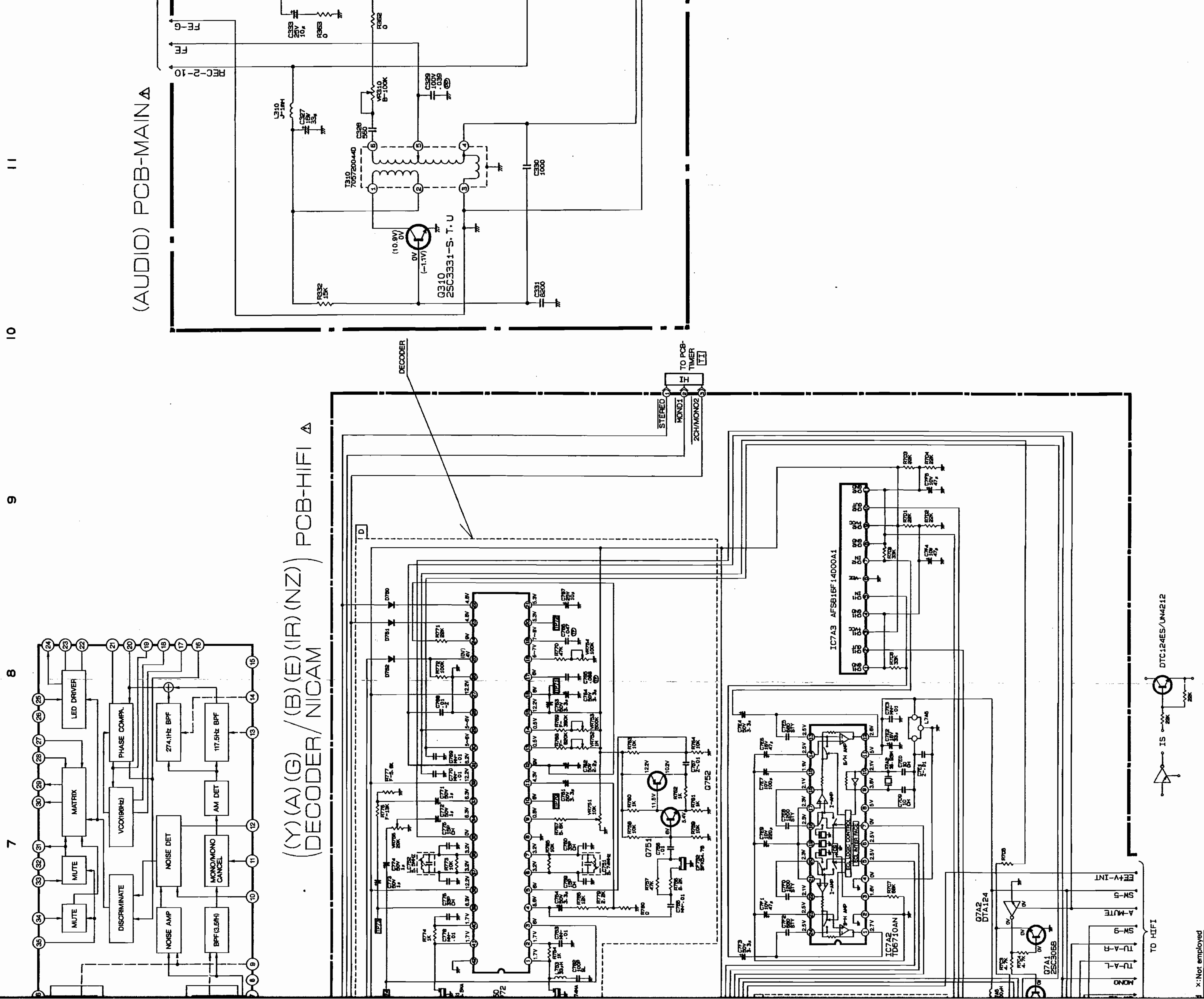

1
2
3
4
5
6
A
B
C
D
E
F
G
H
IC7Y1 M51366SP
LOCK DET
AFT
APC DET
+45°
-45°
VCO
FM DET
BNC
VIDEO DET
LIM
EQ
RF AGC
IF AGC
2ND IF AMP
1ST IF AMP
SIF DET
IC750 IR3P72
DEEMPHASIS (50μ S)
SIF(5.5MHz) LIMIT DET
SIF(5.74MHz) LIMIT DET
IC750 IR3P72
Q750 2SC1906
IC7A0 TB1210F
IC7A1 M5223P
IC7A4 AN608P
IC7A5 AN608P
IC7A6 AN608P
Q7A5
Q7A3
Q7A0 2SC3068
Q7Y4
Q7Y2 2SC1906
IC7Y1 M51366SP
BPF7A0
X7A0
J7Y1
TO (TUNER/VIF) J101 PCB-MAIN
GND
SIF
SW-12
MONO
HO
B
C
E
F

TO PCB-MAIN(TUNER/VIF)

All diodes are 1SS252/1N4531 unless otherwise specified
All NPN transistors are 2SC2058S-N.P unless otherwise specified
All PNP transistors are 2SA933S-R.S/2SA1309A-R.S/JC101-P.Q unless otherwise specified

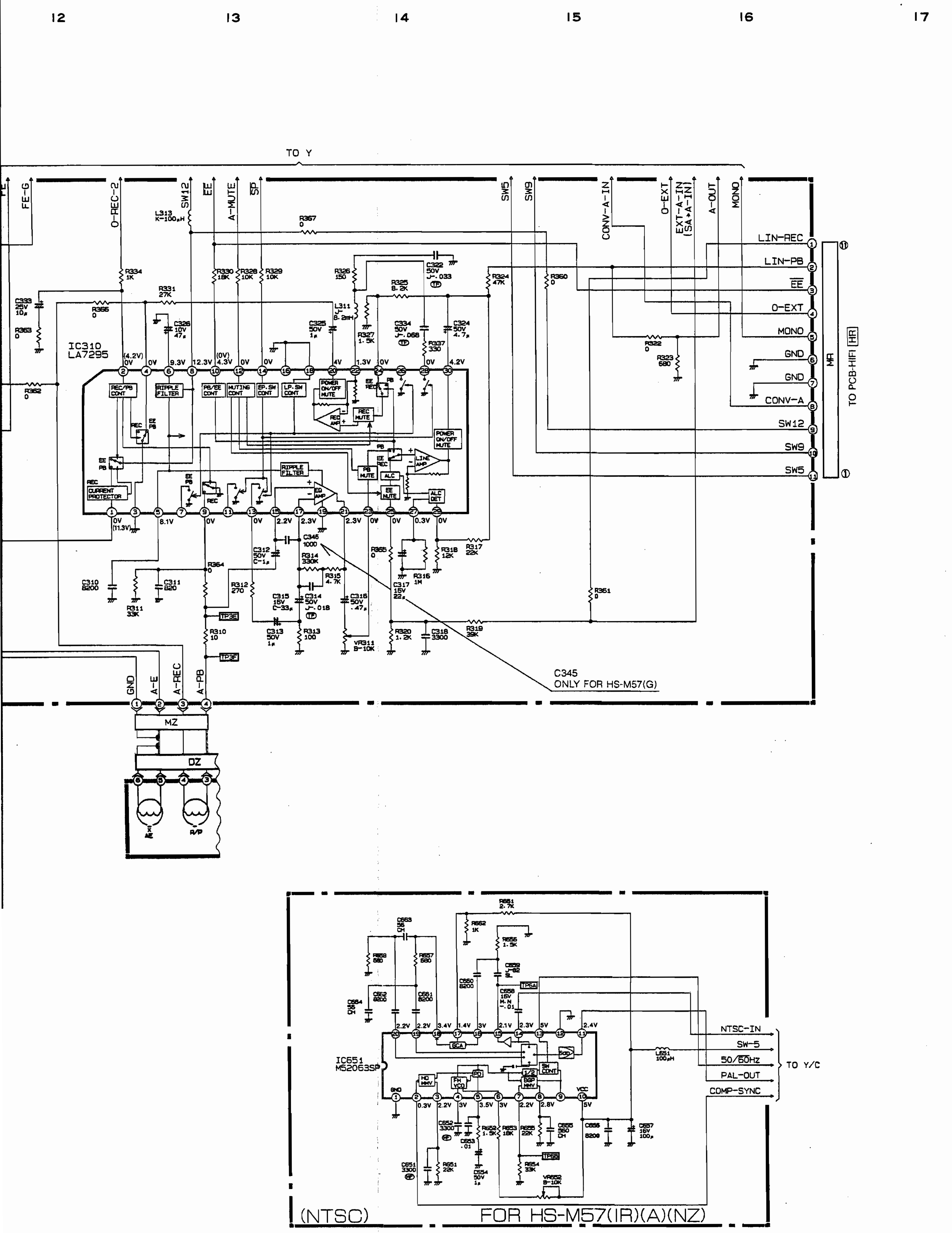
O:Employed ×:No

SYMBOL NO. / MODELS	B,C AREA	D AREA	E,F AREA	J1,J2	J3	J4,J5	J8	BPF7A0	L7A8	R788	SF7Y1	X7A0	SF7Y1	R7
HS-M57(Y)(A)(G)	×	O	×	O	×	O	×	×	×	×	×	×	×	×
HS-M57(B)	O	×	O	×	O	×	O	2110	×	150	SAF32.9M	6.552MH	32.9MDE	O
HS-M57(E)	O	×	O	×	O	×	×	2918	O	560	SAF33.0M	5.85MH	33.0MDA	O
HS-M57(IR)	O	×	O	×	O	×	O	2110	×	150	SAF32.9M	6.552MH	32.9MDE	O
HS-M57(NZ)	O	×	O	×	O	×	×	2918	O	560	SAF33.0M	5.85MH	33.0MDA	O


(AUDIO) PCB-MAIN ⚠
(Y)(A)(G)/(B)(E)(IR)(NZ) DECODER/NICAM PCB-HIFI ⚠
DECODER
TO PCB-TIMER TI
IH
STEREO
MONO1
2CH/MONO2
REC-2-10
FE
FE-G
T310 7057200440
Q310 2SC3331-S,T,U
L310 J-1mH
VR310 B-100K
R332 15K
C330 1000
C331 8200
LED DRIVER
PHASE COMPA.
274.1Hz BPF
117.5Hz BPF
MATRIX
VCO(188Hz)
AM DET
NOISE DET
MONO/MONO CANCEL
MUTE
DISCRIMINATE
NOISE AMP
BPF(3.5fH)
IC7A3 AFS816F14000A1
IC7A2 TD6710AN
Q751
Q752
Q7A1 2SC3068
Q7A2 DTA124
DTC124ES/UN4212
IS
TO HIFI
EE+V-INT
SW-5
A-MUTE
SW-9
TU-A-R
TU-A-L
MONO
11
10
9
8
7

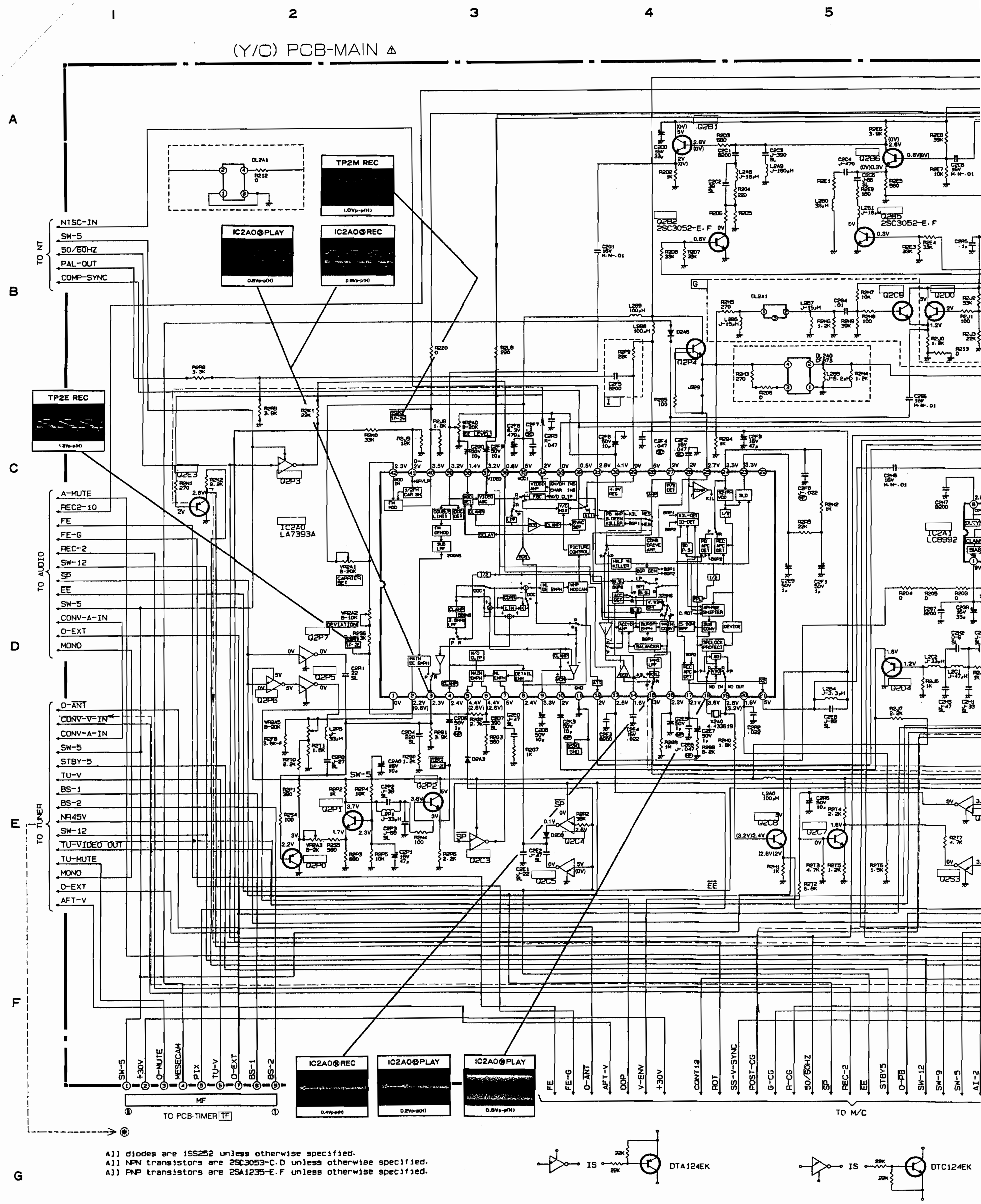
x:Not employed

Y1	R7D7	R7C5
	×	0Ω
DE	0Ω	22K
DA	0Ω	22K
DE	0Ω	22K
DA	0Ω	22K


12
13
14
15
16
17
TO Y
FE-G
O-REC-2
SW12
EE
A-MUTE
SP
SW5
SW9
CONV-A-IN
O-EXT
EXT-A-IN (SA+A-IN)
A-OUT
MONO
LIN-REC
LIN-PB
EE
O-EXT
MONO
GND
GND
CONV-A
SW12
SW9
SW5
MA
TO PCB-HIFI HR
IC310
LA7295
REC/PB CONT
RIPPLE FILTER
PB/EE CONT
MUTING CONT
EP.SW CONT
LP.SW CONT
POWER ON/OFF MUTE
REC AMP
REC MUTE
LINE AMP
PB MUTE
ALC
EE MUTE
ALC DET
EQ AMP
CURRENT PROTECTOR
L313 K-100μH
R367 0
R334 1K
R330 18K
R328 10K
R329 10K
R326 150
C322 50V J-.033
R324 47K
R360 0
R331 27K
R366 0
R325 8.2K
C333 25V 10μ
R363 0
R362 0
C326 10V 47μ
L311 J-8.2mH
C325 50V 1μ
R327 1.5K
C334 50V J-.068
R337 330
C324 50V 4.7μ
R322 0
R323 680
C345 1000
C312 50V C-1μ
R314 330K
R315 4.7K
R365 0
R318 12K
R317 22K
R316 1M
C317 16V 22μ
C310 8200
C311 820
R311 33K
R364 0
R312 270
C315 16V C-33μ
C314 50V J-.018
C316 50V .47μ
R361 0
TP3E
R310 10
TP3F
C313 50V 1μ
R313 100
VR311 B-10K
R320 1.2K
C318 3300
R319 39K
C345
ONLY FOR HS-M57(G)
GND
A-E
A-REC
A-PB
MZ
DZ
AE
R/P
IC651
M52063SP
GCA
SW CONT
1/2
DGP MMV
HD MMV
FH VCO
PD
TO Y/C
NTSC-IN
SW-5
50/60Hz
PAL-OUT
COMP-SYNC
R651 2.7K
R652 1K
R655 1.5K
C663 56 CH
R658 680
R657 680
C659 J-82 SL
C660 8200
TP5A
C658 16V M.N -.01
C664 56 CH
C662 8200
C661 8200
L651 100μH
C652 3300
C653 .01
R652 1.5K
R653 18K
R655 22K
C655 360 CH
C656 8200
C657 16V 100μ
TP5B
C651 3300
R651 22K
C654 50V 1μ
R654 33K
VR652 B-10K
(NTSC)
FOR HS-M57(IR)(A)(NZ)

△PCB-MAIN

(Y/C) PCB-MAIN ⚠

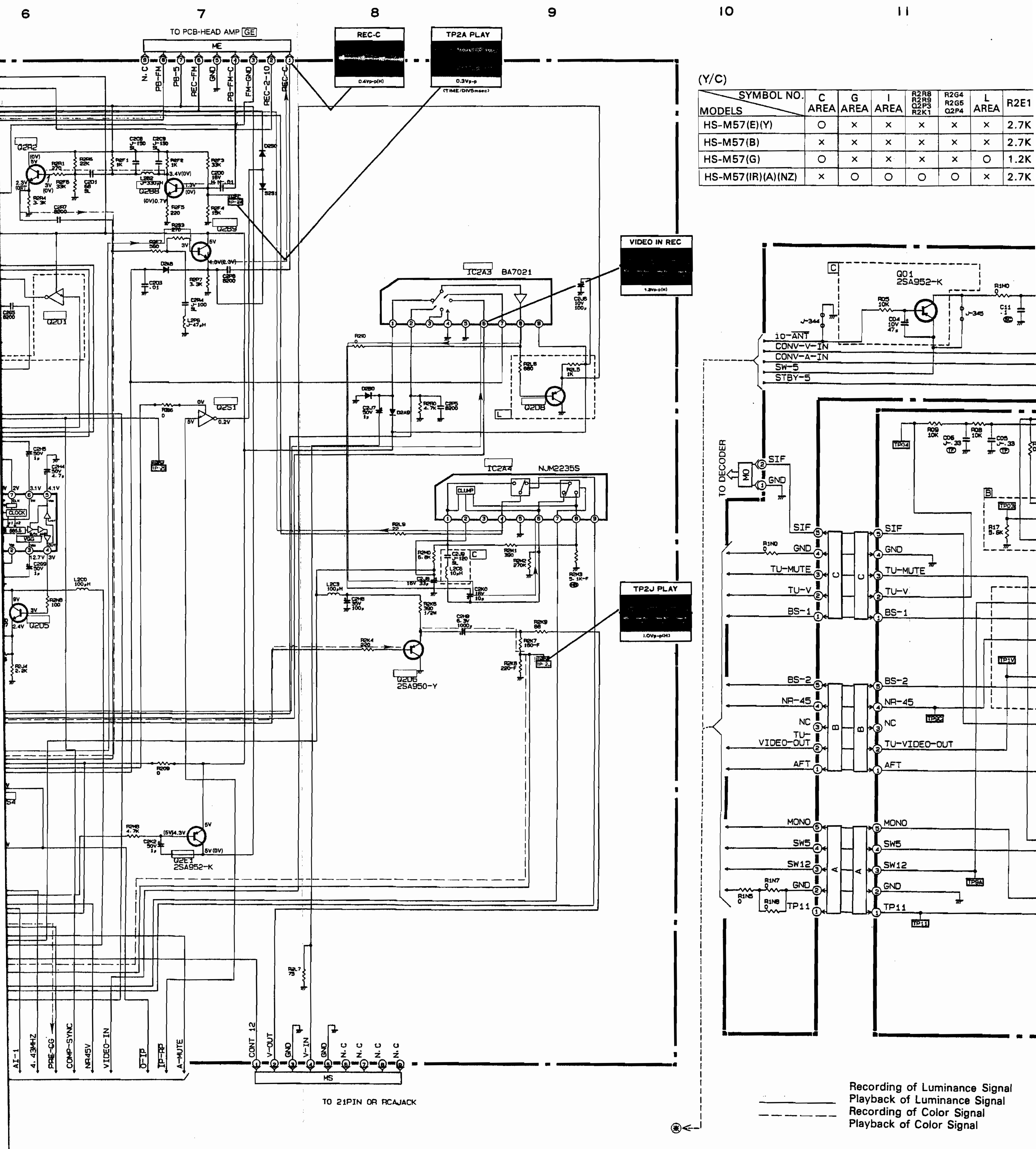


TO NT
NTSC-IN
SW-5
50/60HZ
PAL-OUT
COMP-SYNC
TO AUDIO
A-MUTE
REC2-10
FE
FE-G
REC-2
SW-12
SP
EE
SW-5
CONV-A-IN
O-EXT
MONO
TO TUNER
O-ANT
CONV-V-IN
CONV-A-IN
SW-5
STBY-5
TU-V
BS-1
BS-2
NR45V
SW-12
TU-VIDEO OUT
TU-MUTE
MONO
O-EXT
AFT-V
TP2M REC
IC2A0⑩PLAY
IC2A0⑩REC
TP2E REC
IC2A0
LA7393A
IC2A1
LC8992
Q2B1
Q2B2
2SC3052-E.F
Q2B5
2SC3052-E.F
Q2B6
Q2C9
Q2D0
Q2P4
Q2E3
Q2P3
Q2P7
Q2P5
Q2P6
Q2P0
Q2P1
Q2P2
Q2C3
Q2C4
Q2C5
Q2C8
Q2C7
Q2D4
Q2S3
DL2A1
DL2A0
X2A0
4.433619
SW-5
MF
TO PCB-TIMER TF
SW-5
+30V
O-MUTE
MESECAM
PIX
TU-V
O-EXT
BS-1
BS-2
IC2A0⑪REC
IC2A0⑪PLAY
IC2A0⑱PLAY
FE
FE-G
O-ANT
AFT-V
DOP
V-ENV
+30V
CONT12
ROT
SS-V-SYNC
POST-CG
G-CG
R-CG
50/60HZ
SP
REC-2
EE
STBY5
O-PB
SW-12
SW-9
SW-5
AI-2
TO M/C
IS
DTA124EK
DTC124EK
22K
1
2
3
4
5
A
B
C
D
E
F
G

All diodes are 1SS252 unless otherwise specified.
All NPN transistors are 2SC3053-C.D unless otherwise specified.
All PNP transistors are 2SA1235-E.F unless otherwise specified.

(Y/C)

SYMBOL NO. / MODELS	C AREA	G AREA	I AREA	R2R8 R2R9 Q2P3 R2K1	R2G4 R2G5 Q2P4	L AREA	R2E1
HS-M57(E)(Y)	○	×	×	×	×	×	2.7K
HS-M57(B)	×	×	×	×	×	×	2.7K
HS-M57(G)	○	×	×	×	×	○	1.2K
HS-M57(IR)(A)(NZ)	×	○	○	○	○	×	2.7K

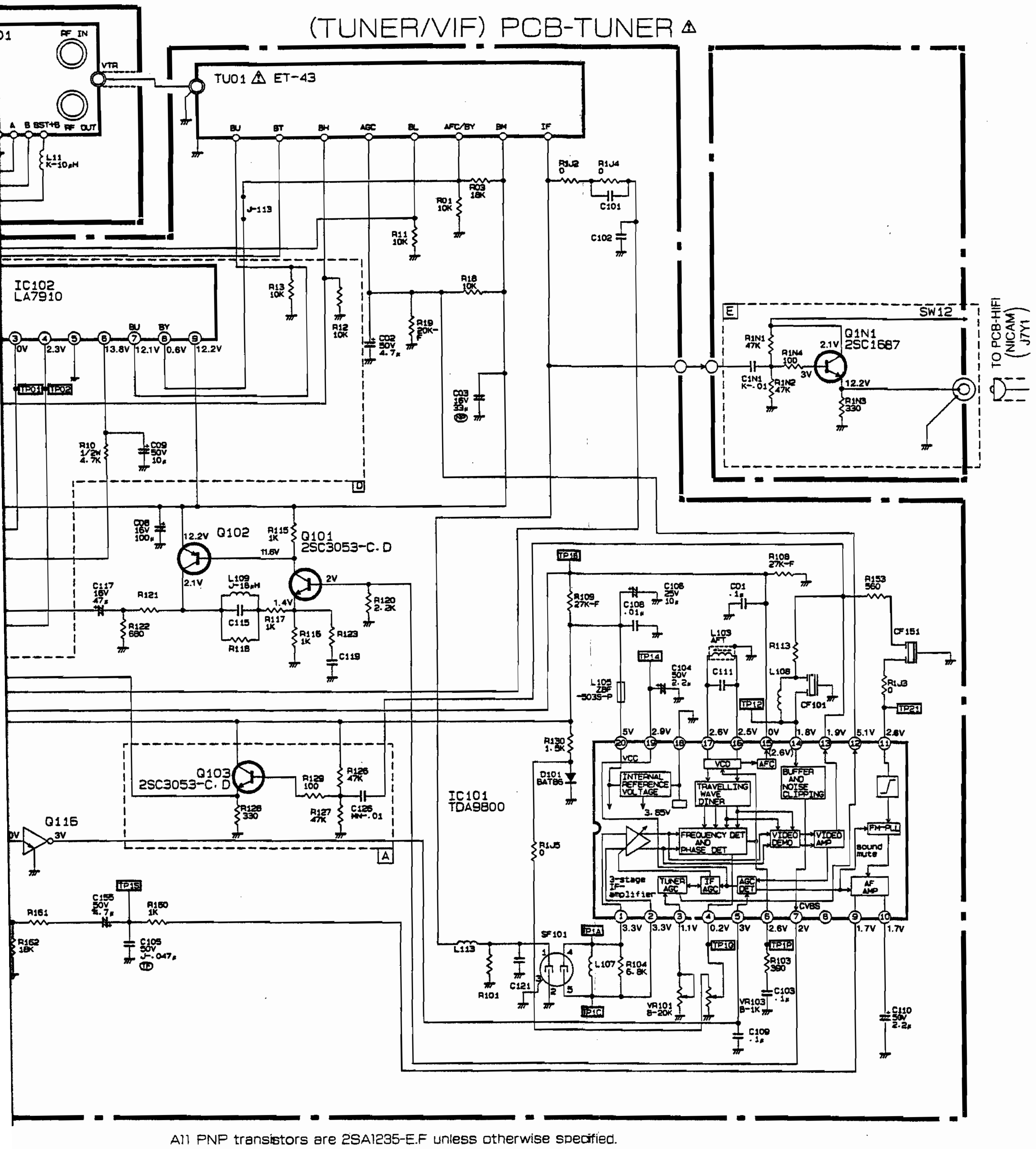

6
7
8
9
10
11
TO PCB-HEAD AMP GE
ME
N.C
PB-FM
PB-5
REC-FM
GND
PB-FM-C
FM-GND
REC-2-10
REC-C
REC-C
0.4Vp-p(H)
TP2A PLAY
0.3Vp-p
(TIME/DIV5msec)
VIDEO IN REC
1.3Vp-p(H)
TP2J PLAY
1.0Vp-p(H)
Q2R2
Q288
Q289
Q2D1
Q251
Q205
Q2E1
2SA952-K
IC2A3 BA7021
Q208
IC2A4 NJM2235S
CLUMP
Q206
2SA950-Y
Q01
2SA952-K
10-ANT
CONV-V-IN
CONV-A-IN
SW-5
STBY-5
TO DECODER
MO
SIF
GND
TU-MUTE
TU-V
BS-1
BS-2
NR-45
NC
TU-VIDEO-OUT
AFT
MONO
SW5
SW12
TP11
AI-1
4.43MHZ
PRE-CG
COMP-SYNC
NR45V
VIDEO-IN
O-IP
IP-RP
A-MUTE
CONT 12
V-OUT
V-IN
MS
TO 21PIN OR RCAJACK

Recording of Luminance Signal
Playback of Luminance Signal
Recording of Color Signal
Playback of Color Signal

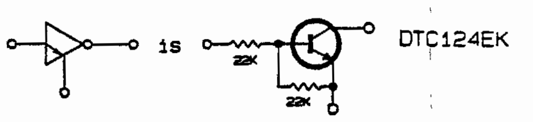
13 14 15 16 17 18

2A6
○
×
○
×

(TUNER/VIF) PCB-TUNER ⚠


TU01 ⚠ ET-43
BU
BT
BH
AGC
BL
AFC/BY
BM
IF
RF IN
VTR
RF OUT
L11 K-10μH
J-113
R01 10K
R03 18K
R11 10K
R1J2 0
R1J4 0
C101
C102
IC102 LA7910
R13 10K
R12 10K
R18 10K
R19 20K-F
C02 50V 4.7μ
C03 16V 33μ
R10 1/2W 4.7K
C09 50V 10μ
C08 16V 100μ
Q102
Q101 2SC3053-C. D
R115 1K
R117 1K
R116 1K
R118
R120 2.2K
R121
R122 680
R123
C115
C117 16V 47μ
C119
L109 J-18μH
Q103 2SC3053-C. D
R126 47K
R127 47K
R128 330
R129 100
C126 HH-.01
Q115
R161
R162 18K
R160 1K
C155 50V 4.7μ
C105 50V J-.047μ
TP01
TP02
TP15
IC101 TDA9800
SW12
Q1N1 2SC1687
R1N1 47K
R1N2 47K
R1N3 330
R1N4 100
C1N1 K-.01
TO PCB-HIFI (NICAM) (J7Y1)
R108 27K-F
R109 27K-F
R113
R130 1.5K
R153 560
R1J3 0
R1J5 0
D101 BAT86
C106 25V 10μ
C108 .01μ
C104 50V 2.2μ
CD1 .1μ
C111
L103 AFT
L102 ZBF -5035-P
L108
CF101
CF151
INTERNAL REFERENCE VOLTAGE
TRAVELLING WAVE DINER
VCO
AFC
BUFFER AND NOISE CLIPPING
FREQUENCY DET AND PHASE DET
VIDEO DEMO
VIDEO AMP
FM-PLL
sound mute
3-stage IF-amplifier
TUNER AGC
IF AGC
AGC DET
AF AMP
VCC
CVBS
SF101
L107
L113
R101
R104 6.8K
R103 390
C103 .1μ
C109 .1μ
C110 50V 2.2μ
C121
VR101 B-20K
VR103 B-1K
TP1A
TP1B
TP1C
TP1D
TP12
TP14
TP21

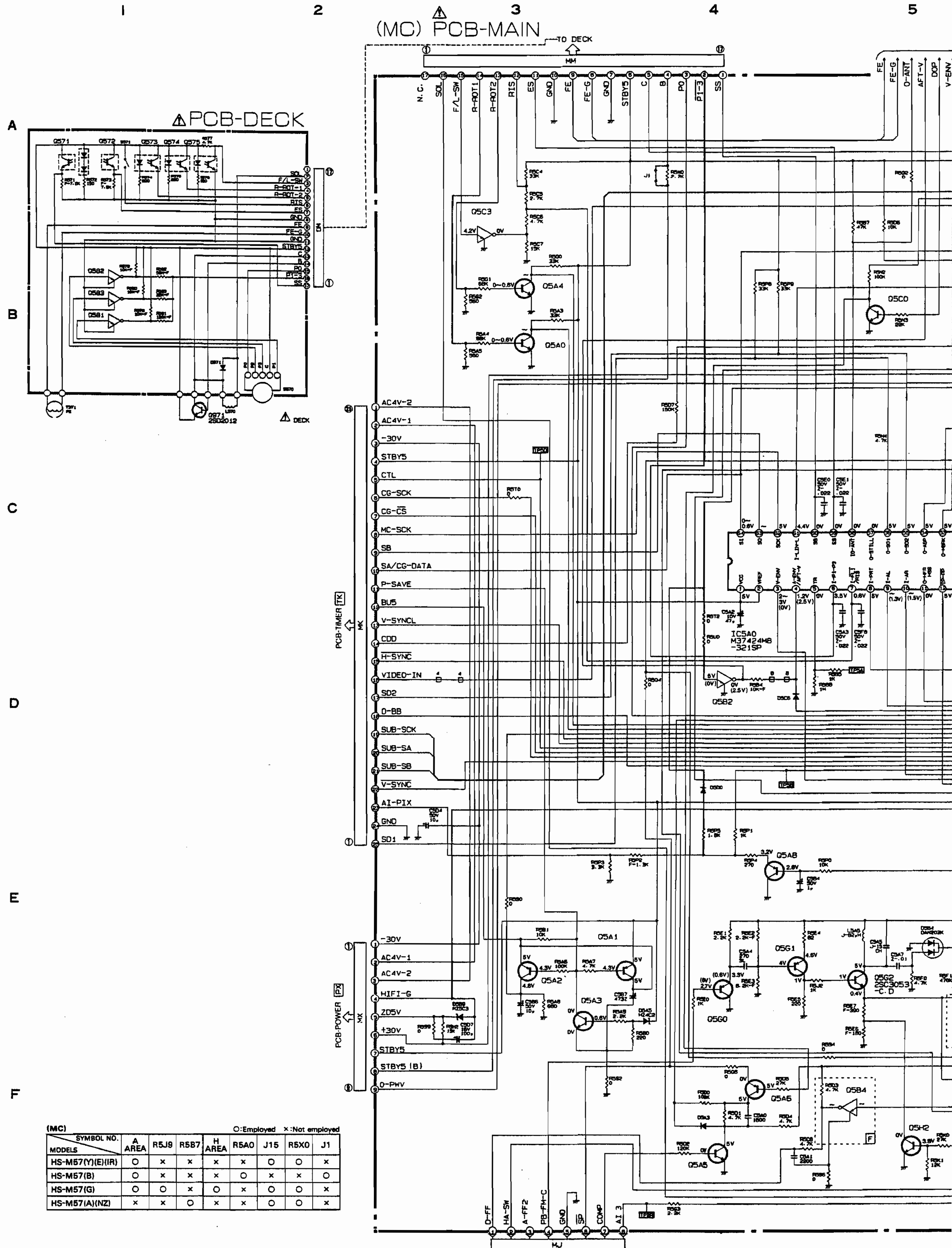
All PNP transistors are 2SA1235-E.F unless otherwise specified.


1s
22K
22K
DTC124EK

○: Employed ×: Not employed

SYMBOL NO. / MODELS	(Y)	(B)	(E)	(IR)	(G)	(A)	(NZ)
A AREA	○	×	×	×	○	○	×
B AREA	×	×	○	×	×	×	×
C AREA	×	×	×	×	×	○	○
D AREA	○	×	○	○	○	○	○
E AREA	×	○	○	○	×	×	○
J-113	×	×	○	×	×	×	×
J-344	○	○	○	○	○	×	×
J-345	○	○	○	○	○	×	×
C101	47 SL	47 SL	47 SL	47 SL	47 SL	47 SL	×
C102	47 SL	47 SL	47 SL	47 SL	47 SL	47 SL	33 SL
C111	12 SL	12 SL	12 SL	12 SL	12 SL	12 SL	12 SL
C115	39 SL	39 SL	39 SL	39 SL	39 SL	39 SL	39 SL
C119	390 SL	100 SL	180 SL	180 SL	390 SL	270 SL	180 SL
C121	7 CH	C-10 CH	C-7 CH	C-10 CH	7 CH	7 CH	7 CH
CF101	5.5/ 5.74/6.5	6.0MHZ	5.5/ 5.74MHZ	6.0MHZ	5.5/ 5.74/6.5	5.5/ 5.74MHZ	5.5MHZ
CF151	5.5MHZ	6.0MHZ	5.5MHZ	6.0MHZ	5.5MHZ	5.5MHZ	5.5MHZ
L107	SHIELD K-2.2μH	SHIELD K-2.2μH	SHIELD K-2.2μH	SHIELD K-2.2μH	SHIELD K-2.2μH	SHIELD K-2.2μH	SHIELD K-2.2μH
L108	J-5.6μH	J-10μH	J-10μH	J-15μH	J-5.6μH	J-10μH	J-15μH
L113	J-1.5μH	J-1.2μH	J-1.5μH	J-1.5μH	J-1.5μH	J-1.5μH	J-1.5μH
R03	○	○	×	○	○	○	○
R11	○	×	○	○	○	○	○
R101	F-2.4K	F-910	F-820	F-910	F-2.4K	F-2.4K	F-2.4K
R113	F-430	F-430	F-430	F-910	F-430	F-750	F-470
R118	F-2.4K	F-6.8K	F-1.2K	F-750	F-3.3K	F-1K	F-6.8K
R121	F-1.5K	F-1.5K	F-1.5K	F-1.2K	F-1.5K	F-1.3K	F-1.5K
R123	F-240	F-1.2K	F-390	F-510	F-240	F-470	F-680
R161	22K	27K	27K	27K	22K	22K	27K
R1J1	○	×	×	○	○	○	○
R1J4	×	×	×	×	×	○	○

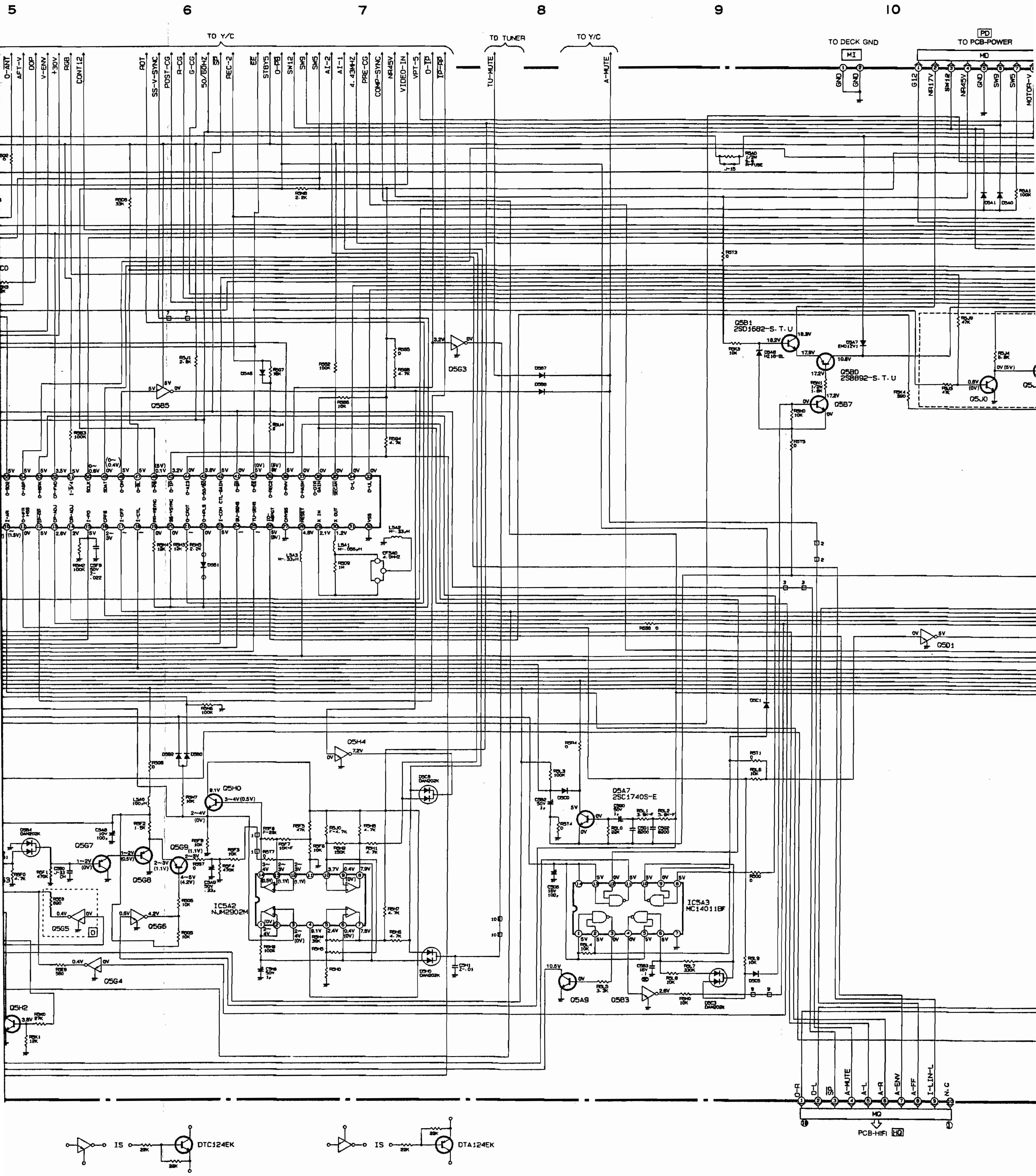
HS-M57(Y)(B)(E)(IR)
HS-M57(G)(A)(NZ) (3/

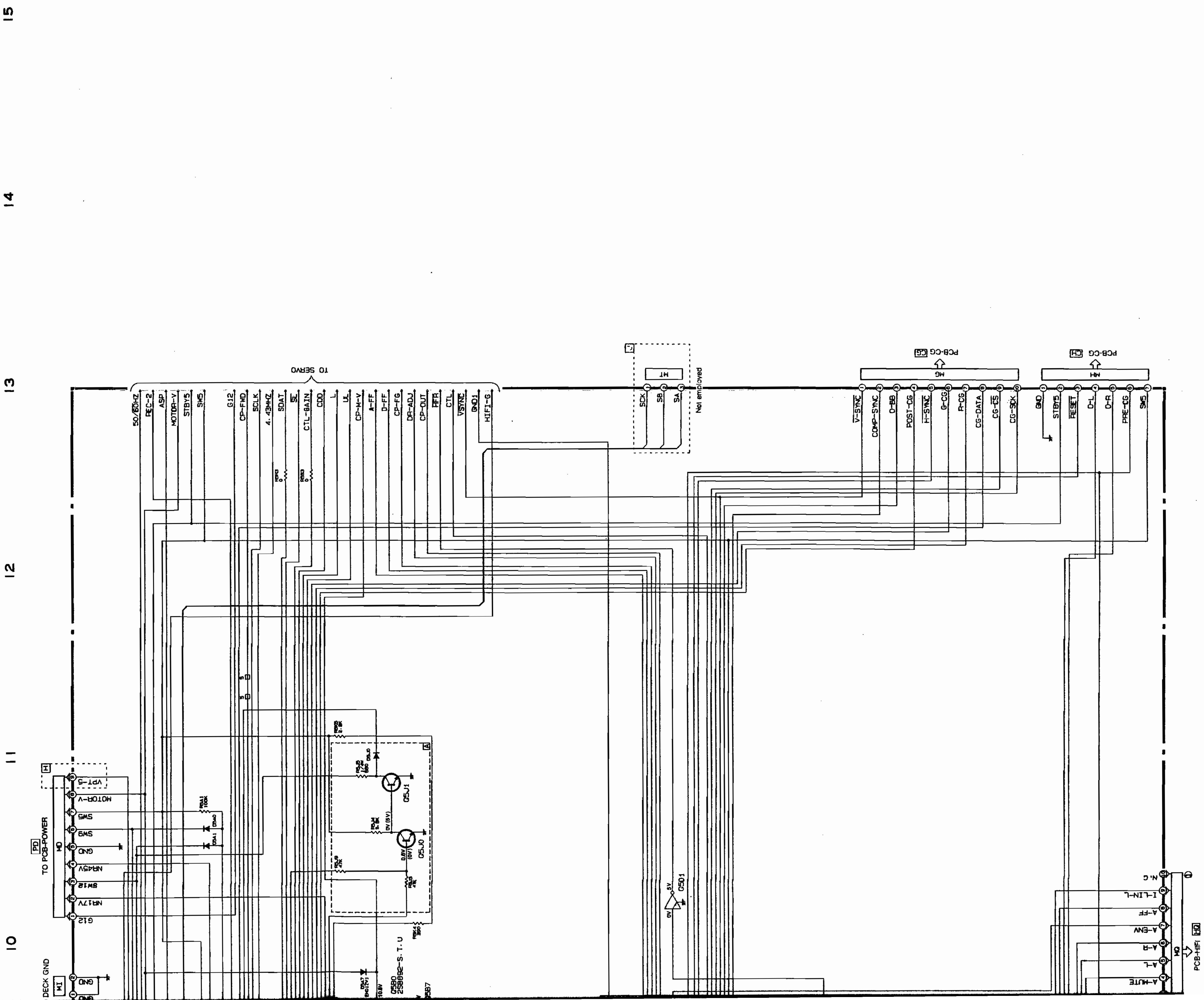

1
2
3
4
5
A
B
C
D
E
F
G
(MC) PCB-MAIN
TO DECK
MM
N.C.
SOL
F/L-SW
R-ROT1
R-ROT2
RIS
ES
GND
FE
FE-G
GND
STBY5
C
B
PO
PI-3
SS
FE
FE-G
O-ANT
AFT-V
DOP
V-ENV
PCB-DECK
Q571
Q572
Q573
Q574
Q575
Q5B2
Q5B3
Q5B1
Q971
2SD2012
DECK
DN
Q5C3
Q5A4
Q5A0
Q5C0
PCB-TIMER TK
MK
AC4V-2
AC4V-1
-30V
STBY5
CTL
CG-SCK
CG-CS
MC-SCK
SB
SA/CG-DATA
P-SAVE
BUS
V-SYNCL
CDD
H-SYNC
VIDEO-IN
SD2
O-BB
SUB-SCK
SUB-SA
SUB-SB
V-SYNC
AI-PIX
GND
SD1
IC5A0
M37424M8
-321SP
Q5B2
Q5A8
PCB-POWER PX
MX
-30V
AC4V-1
AC4V-2
HIFI-G
ZD5V
+30V
STBY5
STBY5 (B)
O-PWV
Q5A1
Q5A2
Q5A3
Q5G1
Q5G0
Q5G2
2SC3053
-C·D
Q5B4
Q5A6
Q5A5
Q5H2
O-FF
HA-SW
A-FF2
PB-FM-C
GND
SP
COMP
AI 3
HJ
PCB-HEAD AMP GJ

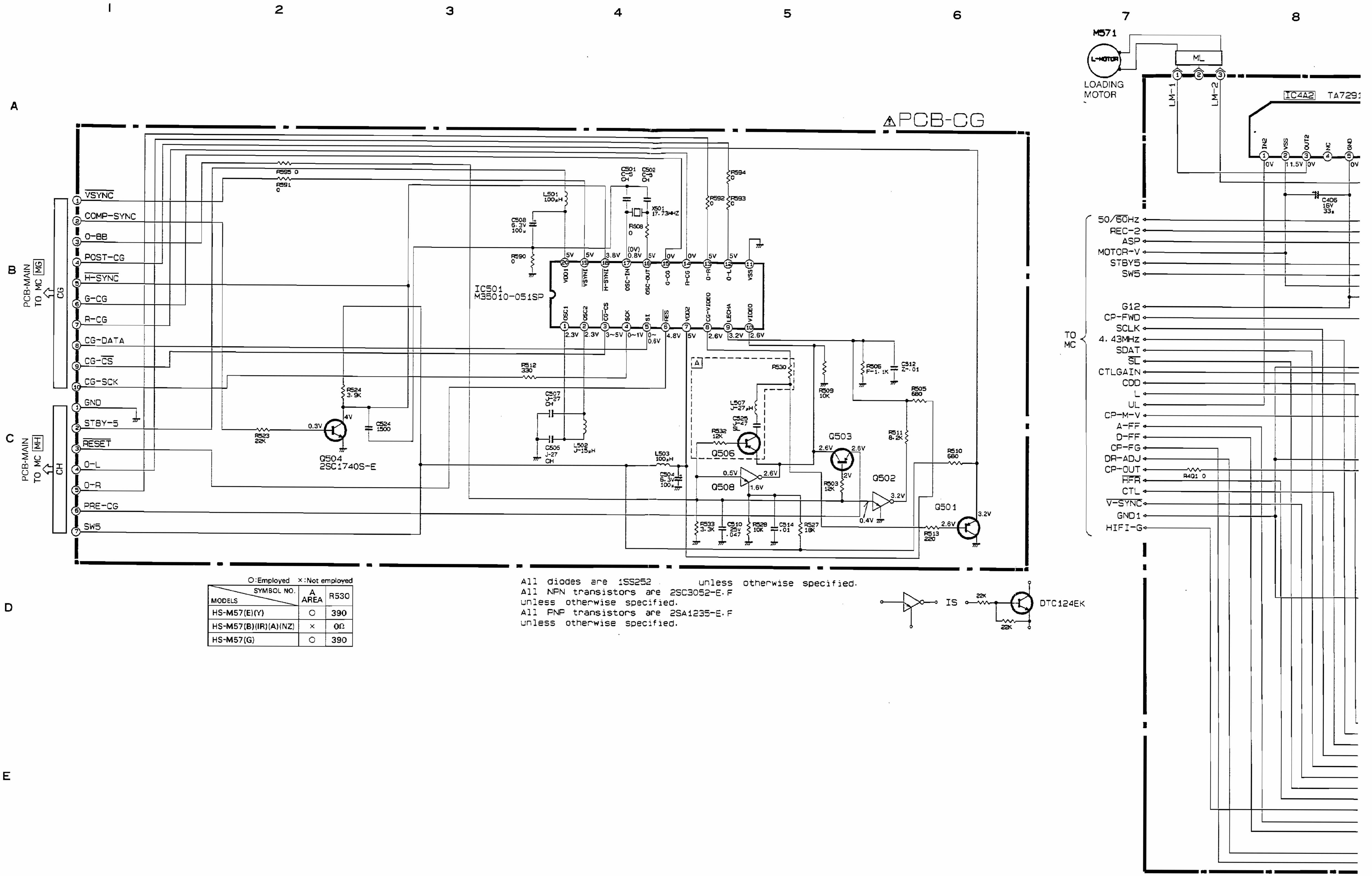
(MC) O:Employed ×:Not employed

SYMBOL NO. / MODELS	A AREA	R5J9	R5B7	H AREA	R5A0	J15	R5X0	J1
HS-M57(Y)(E)(IR)	○	×	×	×	×	○	○	×
HS-M57(B)	○	×	×	×	○	×	×	○
HS-M57(G)	○	○	×	○	×	○	○	×
HS-M57(A)(NZ)	×	×	○	×	×	○	○	×

All diodes are 1SS252 unless otherwise specified.
All NPN transistors are 2SC3052-E·F
unless otherwise specified.
All PNP transistors are 2SA1235-E·F
unless otherwise specified.


5
6
7
8
9
10
TO Y/C
TO TUNER
TO Y/C
TO DECK GND
MI
PD
TO PCB-POWER
MD
O-ANT
AFT-V
DOP
V-ENV
+30V
RGB
CONT12
ROT
SS-V-SYNC
POST-CG
R-CG
G-CG
50/60HZ
SP
REC-2
EE
STBYS
O-PB
SW12
SW9
SW5
AI-2
AI-1
4.43MHZ
PRE-CG
COMP-SYNC
NR45V
VIDEO-IN
VPT-5
O-IP
IP-RP
TU-MUTE
A-MUTE
GND
GND
G12
NR17V
SW12
NR45V
GND
SW9
SW5
MOTOR-V
Q5B1
2SD1682-S.T.U
Q5B0
2SB892-S.T.U
Q5B7
Q5J0
Q5G3
Q5B5
Q5D1
Q5H4
Q5H0
Q5A7
2SC1740S-E
Q5G7
Q5G8
Q5G9
Q5G5
Q5G6
Q5G4
Q5H2
IC5A2
NJM2902M
IC5A3
MC14011BF
Q5A9
Q5B3
O-R
O-L
SP
A-MUTE
A-L
A-R
A-ENV
A-FF
I-LIN-L
N.C
MQ
PCB-HIFI
HQ
IS
DTC124EK
IS
DTA124EK

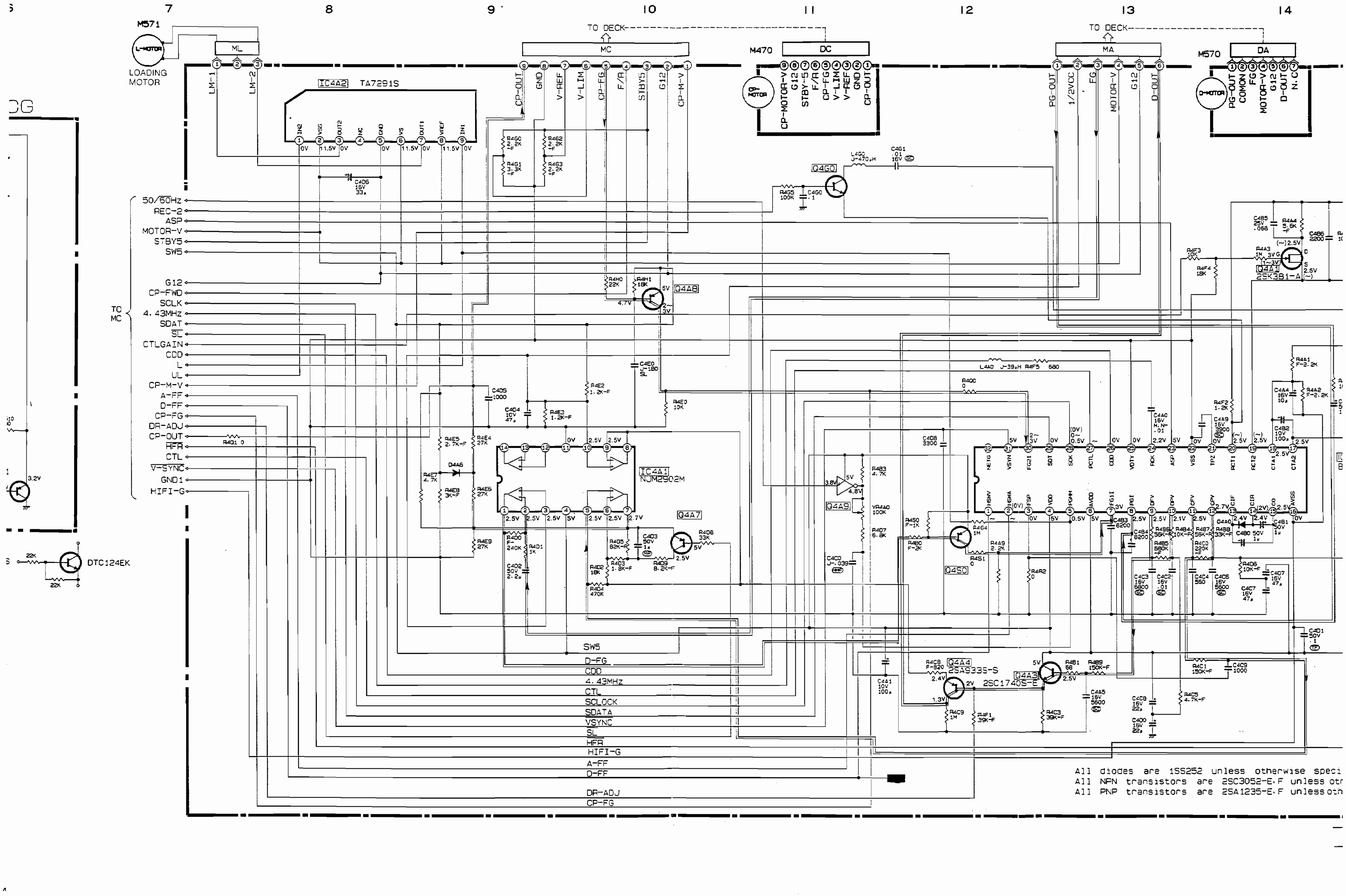

15
14
13
12
11
10
TO SERVO
50/60Hz
REC-2
ASP
MOTOR-V
STBY5
SW5
G12
CP-FWD
SCLK
4.43MHz
SDAT
SE
CTL-GAIN
CDD
L
UL
CP-H-V
A-FF
D-FF
CP-FG
DR-ADJ
CP-OUT
FFR
CTL
VSYNC
GND1
HIFI-G
MT
SCK
SB
SA
Not employed
PCB-CG CG
MG
V-SYNC
COMP-SYNC
O-BB
POST-CG
H-SYNC
G-CG
R-CG
CG-DATA
CG-CS
CG-SCK
PCB-CG CH
MH
GND
STBY5
RESET
O-L
O-R
PRE-CG
SW5
PD
TO PCB-POWER
MD
VPT-5
MOTOR-V
SW5
SW9
GND
NA45V
SW12
NA17V
G12
Q5J1
Q5J0
Q501
5V
0V
DECK GND
MI
GND
Q580
2SB892-S.T.U
Q587
N.C
I-LIN-L
A-FF
A-ENV
A-R
A-L
A-MUTE
MQ
PCB-HIFI HQ


1
2
3
4
5
6
7
8
A
B
C
D
E
⚠PCB-CG
M571
L-MOTOR
LOADING MOTOR
ML
LM-1
LM-2
IC4A2 TA729
IN2
VSS
OUT2
NC
GND
C406 16V 33μ
PCB-MAIN TO MC MG
CG
PCB-MAIN TO MC MH
CH
VSYNC
COMP-SYNC
O-BB
POST-CG
H-SYNC
G-CG
R-CG
CG-DATA
CG-CS
CG-SCK
GND
STBY-5
RESET
O-L
O-R
PRE-CG
SW5
IC501
M35010-051SP
VDD1
VSYNC
H-SYNC
OSC-IN
OSC-OUT
G-CG
R-CG
O-R
O-L
VSS
OSC1
OSC2
CG-CS
SCK
SI
RES
VDD2
CG-VIDEO
LECHA
VIDEO
X501 17.734MHZ
L501 100μH
L502 J-15μH
L503 100μH
L507 J-27μH
C501
C502
C504 6.3V 100μ
C505 J-27 CH
C507 J-27 CH
C508 6.3V 100μ
C510 25V .047
C512 Z-.01
C514 .01
C524 1500
C525 J-47
R506 F-1.1K
R508 0
R509 10K
R510 680
R511 8.2K
R512 330
R513 220
R523 22K
R524 3.9K
R527 18K
R528 10K
R530
R532 12K
R533 3.3K
R555 0
R590 0
R591 0
R592 0
R593 0
R594 0
R503 12K
R505 680
Q501
Q502
Q503
Q504
2SC1740S-E
Q506
Q508
R401 0
TO MC
50/60Hz
REC-2
ASP
MOTOR-V
STBY5
SW5
G12
CP-FWD
SCLK
4.43MHz
SDAT
SL
CTLGAIN
CDD
L
UL
CP-M-V
A-FF
D-FF
CP-FG
DR-ADJ
CP-OUT
HFR
CTL
V-SYNC
GND1
HIFI-G
IS
22K
DTC124EK

MODELS \ SYMBOL NO.	A AREA	R530
HS-M57(E)(Y)	○	390
HS-M57(B)(IR)(A)(NZ)	×	0Ω
HS-M57(G)	○	390

○:Employed ×:Not employed

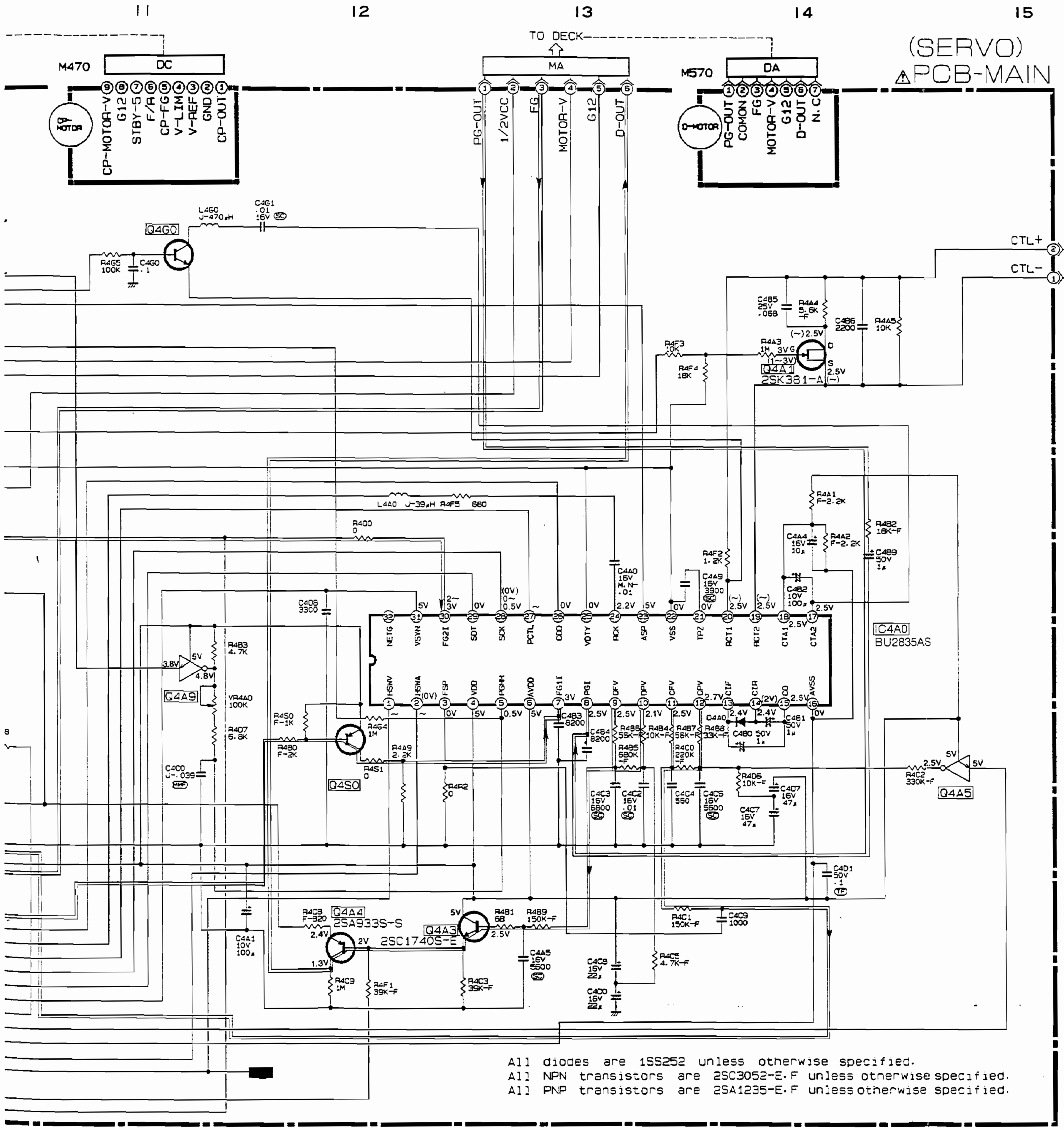
All diodes are 1SS252 unless otherwise specified.
All NPN transistors are 2SC3052-E·F unless otherwise specified.
All PNP transistors are 2SA1235-E·F unless otherwise specified.


7
8
9
10
11
12
13
14
M571
L-MOTOR
LOADING MOTOR
ML
LM-1
LM-2
IC4A2 TA7291S
IN2
VSS
OUT2
NC
GND
VS
OUT1
VREF
IN1
TO DECK
MC
CP-OUT
GND
V-REF
V-LIM
CP-FG
F/R
STBY5
G12
CP-M-V
M470
DC
CP-MOTOR
CP-MOTOR-V
G12
STBY-5
F/R
CP-FG
V-LIM
V-REF
GND
CP-OUT
Q4G0
L4G0 J-470μH
C4G1 .01 16V
R4G5 100K
C4G0 .1
MA
PG-OUT
1/2VCC
FG
MOTOR-V
G12
D-OUT
M570
DA
D-MOTOR
PG-OUT
COMON
FG
MOTOR-V
G12
D-OUT
N.C
50/60Hz
REC-2
ASP
MOTOR-V
STBY5
SW5
G12
CP-FWD
SCLK
4.43MHz
SDAT
SL
CTLGAIN
CDD
L
UL
CP-M-V
A-FF
D-FF
CP-FG
DR-ADJ
CP-OUT
HFR
CTL
V-SYNC
GND1
HIFI-G
TO MC
C406 16V 33μ
R4G0 2.2K-F
R4G1 3.3K-F
R4G2 2.2K-F
R4G3 2.2K-F
R4H0 22K
R4H1 18K
Q4A8
C4E0 180
C405 1000
C404 16V 47μ
R4E3 1.2K-F
R4E2 1.2K-F
R4E0 10K
R401 0
R4E5 2.7K-F
R4E4 27K
D4A5
R4E7 4.7K
R4E8 3K-F
R4E6 27K
R4E9 27K
IC4A1 NJM2902M
R400 F-240K
R4D1 1K
C402 50V 2.2μ
R405 82K-F
C403 50V 1μ
Q4A7
R406 33K
R402 18K
R403 1.8K-F
R409 8.2K-F
R404 470K
R483 4.7K
Q4A9
VR4A0 100K
R407 6.8K
C4C0 J-.039
C408 3300
R450 F-1K
R460 F-3K
R4G4 1M
R4S1 0
Q4S0
R4A9 2.2K
R4A2 0
L4A0 J-39μH
R4F5 680
R4G0 0
HSW
VSYN
FG2I
SOT
SCK
PCTL
CDD
VDTY
RCK
ASP
VSS
TPZ
RCT1
RCT2
CTA1
CTA2
C4A0 16V M.N .01
C4A9 16V 3900
R4F2 1.2K
R4F3 10K
R4F4 18K
Q4A1 2SK381-A
R4A3 1M
C485 25V .068
R4A4 5.6K-F
C486 2200
R4A1 F-2.2K
R4A2 F-2.2K
C4A4 16V 10μ
C4B2 10V 100μ
C4B3 8200
C4B4 8200
R4B5 56K-F
R4B4 10K-F
R4B7 56K-F
R4B8 33K-F
D4A0
C4B0 50V 1μ
C4B1 50V 1μ
R4B5 680K
R4C0 220K
C4C3 16V 6800
C4C2 16V .01
C4C4 550
C4C5 16V 5600
R4D6 10K-F
C4C7 16V 47μ
C4D7 16V 47μ
C4D1 50V .1
C441 10V 100μ
R4C8 F-820
Q4A4 2SA933S-S
Q4A3 2SC1740S-E
R4B1 56
R4B9 150K-F
R4C9 1M
R4F1 39K-F
R4C3 39K-F
C4A5 16V 5600
C4C8 16V 22μ
C4D0 16V 22μ
R4C5 4.7K-F
R4C1 150K-F
C4C9 1000
SW5
D-FG
CDD
4.43MHz
CTL
SCLOCK
SDATA
VSYNC
SL
HFR
HIFI-G
A-FF
D-FF
DR-ADJ
CP-FG
DTC124EK
22K
3.2V
0V
11.5V
2.5V
5V
4.8V
3.8V
2.4V
2V
1.3V
2.7V
2.2V
2.1V
4.7V

All diodes are 1SS252 unless otherwise speci
All NPN transistors are 2SC3052-E.F unless otr
All PNP transistors are 2SA1235-E.F unless oth

11
12
13
14
15
16
17
18

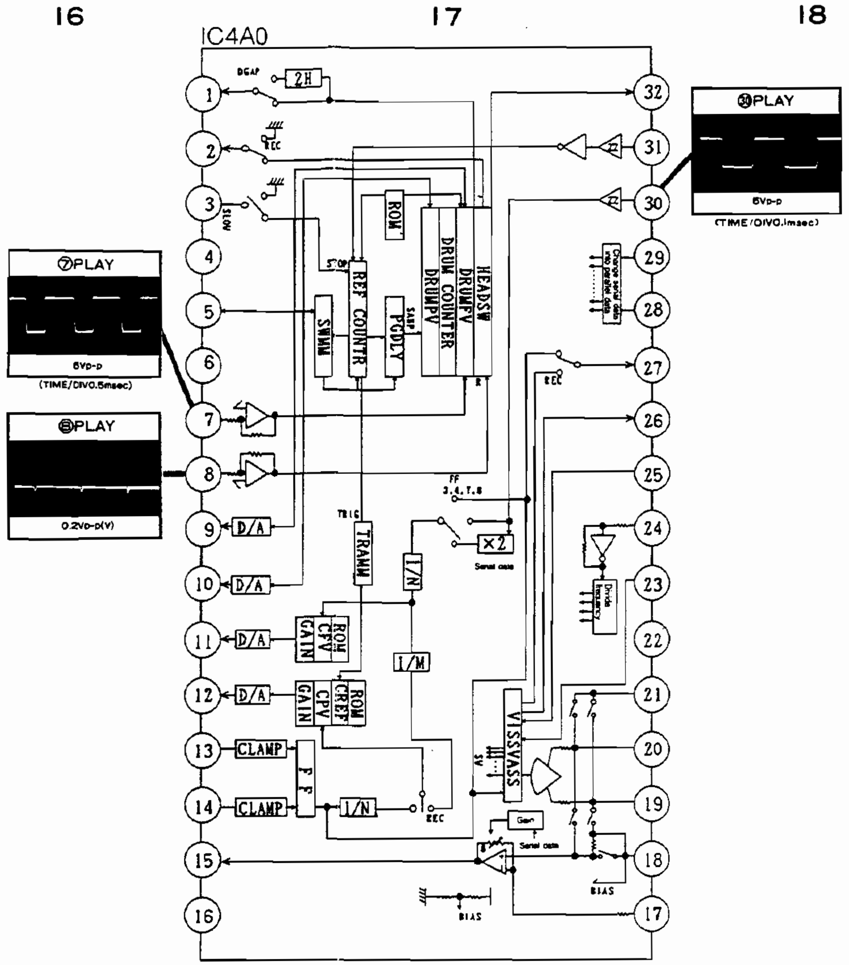
(SERVO)
⚠PCB-MAIN


M470
DC
CP-MOTOR-V
G12
STBY-5
F/R
CP-FG
V-LIM
V-REF
GND
CP-OUT
MOTOR
TO DECK
MA
PG-OUT
1/2VCC
FG
MOTOR-V
G12
D-OUT
M570
DA
D-MOTOR
PG-OUT
COMON
FG
MOTOR-V
G12
D-OUT
N.C
Q4G0
L4G0 J-470μH
C4G1 .01 16V
R4G5 100K
C4G0 .1
CTL+
CTL-
MP
DZ
A/C HEAD T370
C485 25V .068
R4A4 5.6K
C486 2200
R4A5 10K
R4F3 10K
R4F4 18K
R4A3 1M
Q4A1
2SK381-A
L4A0 J-39μH
R4F5 680
R400 0
R4A1 F-2.2K
R4A2 F-2.2K
C4A4 16V 10μ
R482 18K-F
C489 50V 1μ
R4F2 1.2K
C4A9 16V 3900
C4A0 16V M.N-.01
C482 10V 100μ
C406 3300
IC4A0
BU2835AS
NETG
VSYN
FG2I
SDT
SCK
PCTL
CDD
VDTY
RCK
ASP
VSS
TP2
RCT1
RCT2
CTA1
CTA2
HSWV
HSWA
FSP
VDD
PGMM
AVDD
FG1I
PGI
DFV
DPV
CFV
CPV
CTIF
CTIR
CO
AVSS
R483 4.7K
Q4A9
VR4A0 100K
R407 6.8K
C4C0 J-.039
R450 F-1K
R480 F-2K
R4G4 1M
Q4S0
R4A9 2.2K
R4S1 0
R4F2 0
C483 6200
C484 6200
R486 56K-F
R484 10K-F
R487 56K-F
R488 33K-F
D4A0
C480 50V 1μ
C481 50V 1μ
R485 680K
R4C0 220K
R4D6 10K-F
C4D7 16V 47μ
C4C7 16V 47μ
C4C3 16V 6800
C4C2 16V .01
C4C4 560
C4C6 16V 5600
R4C2 330K-F
Q4A5
C4D1 50V .1
C4A1 10V 100μ
R4C8 F-820
Q4A4
2SA933S-S
Q4A3
2SC1740S-E
R481 68
R489 150K-F
R4C1 150K-F
C4C9 1000
C4A5 16V 5600
C4C8 16V 22μ
C400 16V 22μ
R4CE 4.7K-F
R4C9 1M
R4F1 39K-F
R4C3 39K-F

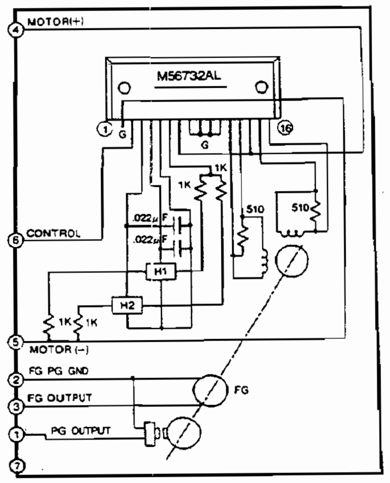
All diodes are 1SS252 unless otherwise specified.
All NPN transistors are 2SC3052-E·F unless otherwise specified.
All PNP transistors are 2SA1235-E·F unless otherwise specified.

Drum Servo System

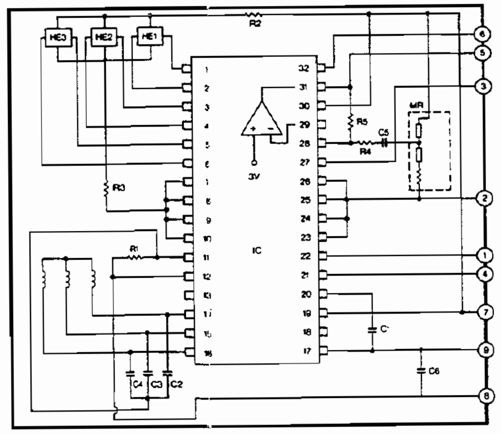
Capstan Servo System


IC4A0
⑦PLAY
5Vp-p
(TIME/DIV0.5msec)
⑧PLAY
0.2Vp-p(V)
㉚PLAY
5Vp-p
(TIME/DIVO.1msec)
REF COUNTER
DRUM COUNTER
DRUMPV
HEADSW
ROM
SWMM
PGDLY
TRAMM
D/A
GAIN
CPV
CREF
CLAMP
I/N
I/M
×2
VASS
VISS
BIAS
REC

DRUM MOTOR

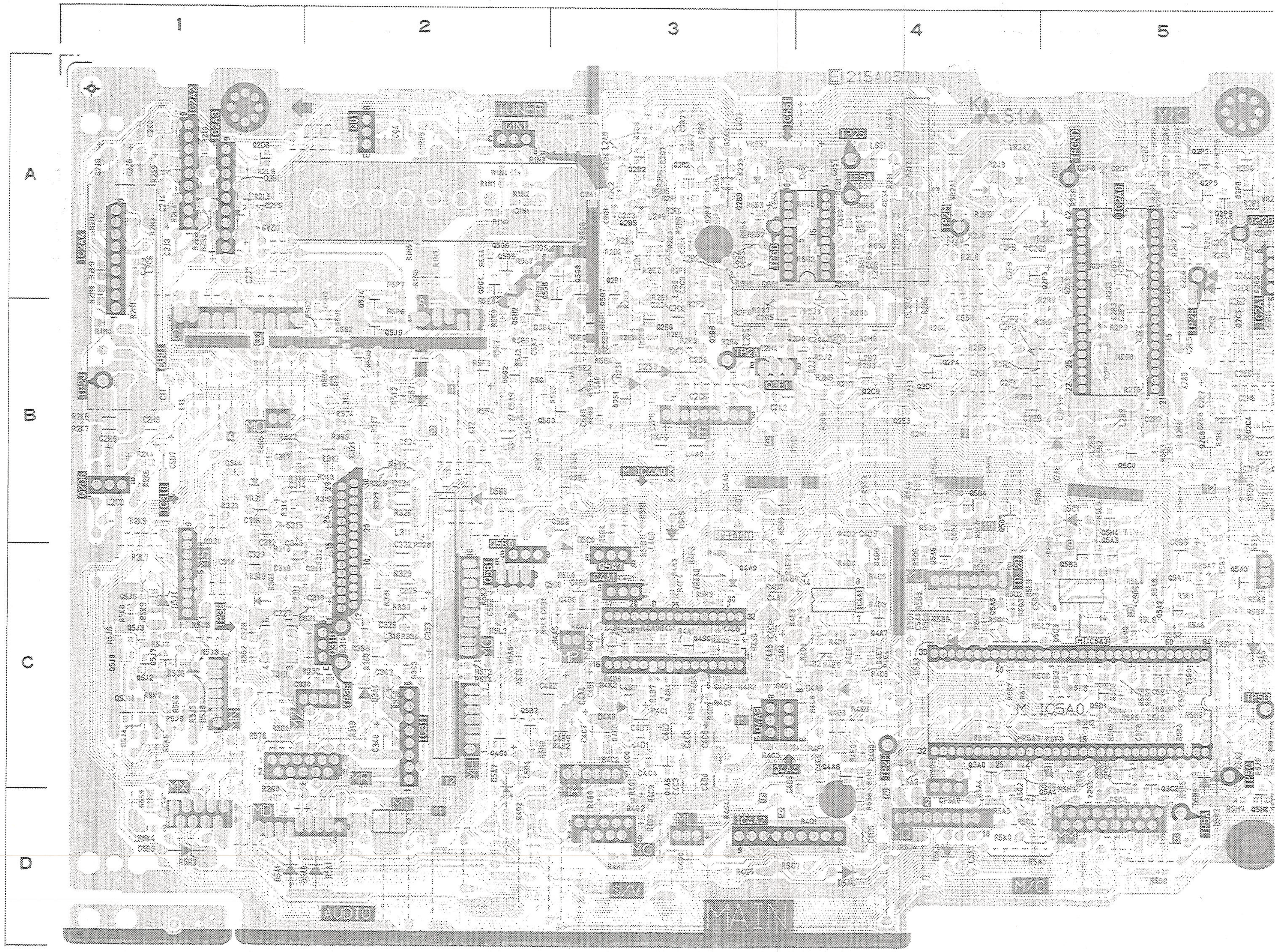

MOTOR(+)
M56732AL
CONTROL
MOTOR(-)
FG PG GND
FG OUTPUT
PG OUTPUT
FG
H1
H2

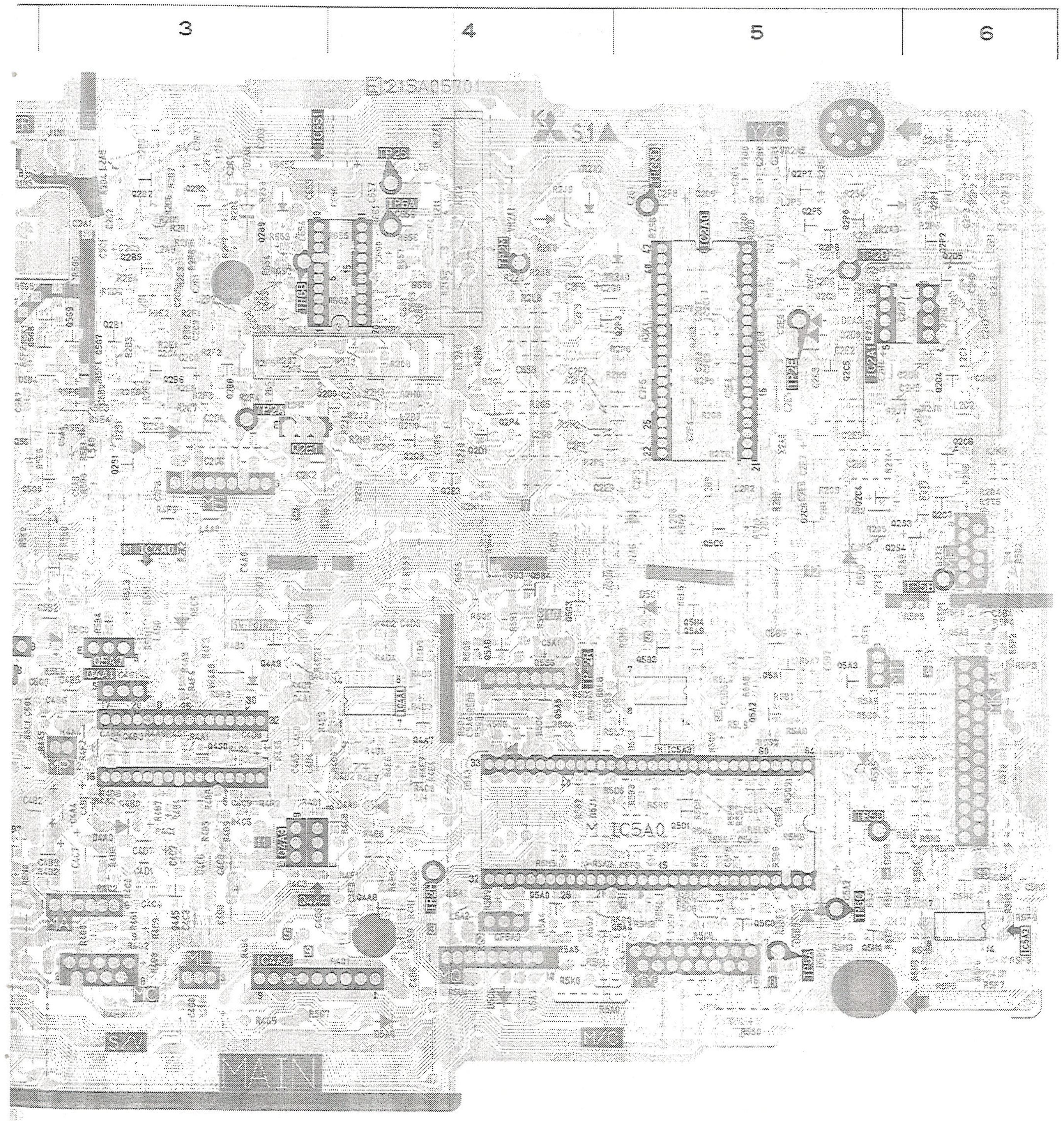
CAPSTAN MOTOR


HE3
HE2
HE1
IC

HS-M57(Y)(B)(E)(IR)
HS-M57(G)(A)(NZ) (4/5)

PCB MAIN


1
2
3
4
5
A
B
C
D
TUNER
Y/C
IC5A0
IC4A0
AUDIO
S/V
M/C
MAIN



PCB MAIN

SYMBOL NO.	ADDRESS
C1N1	A – 2
C2C1	A – 3
C2C2	A – 3
C2C4	A – 3
C2C5	A – 3
C2C9	A – 3
C2D1	A – 3
C2D4	A – 5
C2D5	A – 5
C2D7	A – 5
C2E1	A – 5
C2E3	B – 5
C2E4	B – 5
C2F4	B – 5
C2F5	B – 5
C2F7	A – 5
C2G0	A – 4
C2G4	B – 4
C2H0	A – 6
C2H1	A – 6
C2H2	A – 6
C2H3	B – 6
C2J9	A – 1
C2P2	A – 6
C2P3	A – 6
C2P5	A – 1
C2P8	B – 3
C2R0	A – 5
C2R1	A – 5
C2R2	B – 5
C2R3	B – 5
C2R5	B – 4
C310	C – 2
C311	C – 2
C313	C – 1
C317	B – 1
C318	C – 1
C328	C – 1
C344	B – 1
C345	B – 1
C4B0	C – 3
C4B3	C – 3
C4B4	C – 3
C4B6	C – 3
C4C4	C – 3
C4C9	C – 3
C4D2	C – 4
C4D5	C – 4
C4D8	C – 3
C4G0	D – 3
C5A1	B – 4
C5A3	C – 5
C5A4	B – 3
C5A7	B – 2
C5A9	B – 2
C5B4	B – 6
C5B7	C – 5
C5E0	C – 5
C5E1	C – 5
C5F8	C – 5

SYMBOL NO.	ADDRESS
C5F9	C – 5
C5G1	C – 2
C5G2	C – 2
C5H1	D – 6
C5H2	A – 2
C653	A – 3
C656	A – 4
C661	A – 4
C663	A – 4
CF5A0	C – 4
CU01	B – 1
D2A3	A – 5
D2A6	B – 5
D2A8	A – 3
D2A9	A – 1
D2B0	A – 1
D2D0	A – 5
D2S0	B – 3
D2S1	B – 3
D3A4	C – 2
D4A0	C – 3
D4A6	C – 4
D5A0	D – 1
D5A1	D – 1
D5A3	C – 4
D5A5	C – 5
D5A6	D – 4
D5A7	C – 2
D5A8	C – 2
D5B0	C – 5
D5B1	C – 5
D5B2	C – 5
D5B4	B – 2
D5B7	B – 2
D5B8	B – 2
D5B9	D – 1
D5C0	B – 3
D5C1	B – 5
D5C3	C – 5
D5C5	B – 3
D5C6	D – 4
D5C8	C – 5
D5D0	B – 5
D5H0	C – 6
D5J0	C – 1
D5J1	C – 1
DL2A0	A – 3
DL2A1	A – 4
IC2A0	A – 5
IC2A1	A – 5
IC2A2	A – 1
IC2A3	A – 1
IC2A4	A – 1
IC310	B – 1
IC311	C – 2

SYMBOL NO.	ADDRESS
IC4A0	B – 3
IC4A1	C – 4
IC4A2	D – 3
IC5A0	C – 4
IC5A2	C – 6
IC5A3	C – 5
IC651	A – 3
L11	B – 1
L12	B – 2
L2A0	B – 5
L2A8	A – 3
L2A9	A – 3
L2B0	A – 3
L2B1	A – 3
L2B2	A – 3
L2B4	B – 5
L2B5	B – 3
L2B6	A – 4
L2B7	B – 4
L2B8	B – 5
L2B9	B – 5
L2C0	B – 6
L2C1	A – 6
L2C2	B – 6
L2C3	B – 1
L2C6	A – 1
L2P1	A – 6
L2P5	A – 5
L2P6	A – 3
L310	C – 2
L311	B – 2
L312	B – 2
L313	B – 2
L4A0	B – 3
L4G0	B – 3
L5A0	B – 3
L5A1	C – 4
L5A2	C – 4
L5A3	D – 4
L5A5	B – 2
L651	A – 4
Q01	A – 2
Q1N1	A – 2
Q2B1	A – 3
Q2B2	A – 3
Q2B5	A – 3
Q2B6	B – 3
Q2B8	B – 3
Q2B9	A – 3
Q2C3	A – 5
Q2C4	B – 5
Q2C5	B – 5
Q2C6	B – 6
Q2C7	B – 6
Q2C8	B – 5
Q2C9	B – 4
Q2D0	B – 3
Q2D1	B – 4

SYMBOL NO.	ADDRESS
Q2D4	B – 6
Q2D5	A – 6
Q2D6	B – 1
Q2D8	A – 1
Q2E1	B – 3
Q2E3	B – 4
Q2P0	A – 5
Q2P1	A – 6
Q2P2	A – 6
Q2P4	B – 4
Q2P6	A – 5
Q2P7	A – 5
Q2R2	A – 3
Q2S1	B – 3
Q2S3	B – 5
Q2S4	B – 5
Q310	C – 2
Q4A1	C – 3
Q4A3	C – 3
Q4A4	C – 3
Q4A5	C – 3
Q4A7	C – 4
Q4A8	C – 4
Q4A9	C – 3
Q4G0	C – 2
Q4S0	C – 3
Q5A0	C – 4
Q5A1	C – 5
Q5A3	C – 5
Q5A4	C – 4
Q5A5	C – 4
Q5A6	C – 4
Q5A7	C – 3
Q5A8	B – 6
Q5A9	B – 5
Q5B0	C – 2
Q5B1	C – 2
Q5B3	C – 5
Q5B4	B – 4
Q5B5	B – 3
Q5B7	C – 2
Q5C0	B – 5
Q5C3	C – 5
Q5D1	C – 5
Q5G0	B – 2
Q5G1	B – 2
Q5G2	B – 2
Q5G3	B – 4
Q5G4	A – 2
Q5G5	A – 2
Q5G6	A – 2
Q5G7	A – 3
Q5G8	A – 2
Q5G9	A – 3
Q5H0	D – 5
Q5H2	B – 2
Q5H4	B – 5
Q5J0	C – 1
Q5J1	C – 1
Q5J2	C – 1

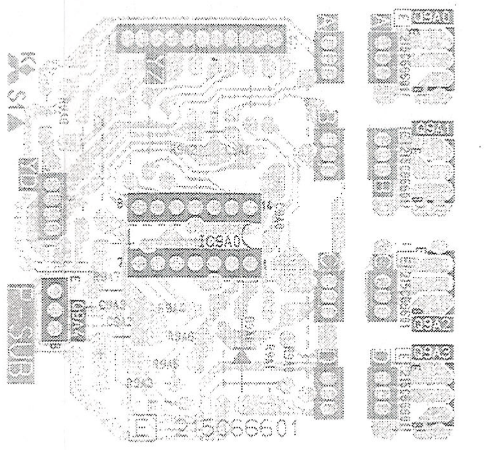
SYMBOL NO.	ADDRESS
Q5J3	C – 1
Q5J4	A – 2
Q5J5	B – 2
Q5J6	C – 1
Q5J7	C – 1
R1M0	B – 1
R1N0	A – 2
R1N1	A – 2
R1N2	A – 2
R1N4	A – 2
R1N5	A – 2
R1N7	A – 2
R1N8	A – 2
R202	A – 5
R204	B – 6
R205	B – 5
R206	A – 5
R207	B – 3
R208	B – 4
R209	B – 4
R210	A – 1
R211	A – 4
R212	A – 4
R213	A – 4
R256	A – 5
R2D2	A – 3
R2D3	B – 3
R2D4	A – 3
R2D5	A – 3
R2D6	A – 3
R2D8	A – 3
R2E2	A – 3
R2E5	B – 3
R2E6	B – 3
R2E7	B – 3
R2E8	B – 3
R2F1	A – 3
R2F2	A – 3
R2F3	B – 3
R2F4	B – 3
R2F6	A – 3
R2F7	A – 3
R2G0	A – 5
R2G1	A – 5
R2G2	A – 5
R2G3	A – 5
R2G4	B – 4
R2G7	A – 5
R2G8	B – 5
R2G9	B – 5
R2H1	B – 5
R2H4	B – 3
R2H6	B – 4
R2H7	B – 4
R2H9	B – 4
R2J2	B – 4
R2J3	B – 4
R2J5	A – 6
R2J7	B – 5

SYMBOL NO.	ADDRESS
R2J8	A – 4
R2J9	A – 4
R2K0	A – 4
R2K1	A – 5
R2K4	B – 1
R2K6	B – 1
R2L3	A – 1
R2L6	A – 1
R2L9	A – 1
R2M0	A – 1
R2M2	A – 1
R2M3	A – 1
R2N5	B – 6
R2N6	B – 6
R2P2	A – 6
R2P3	A – 6
R2P4	A – 6
R2P5	A – 6
R2P7	A – 3
R2P9	B – 5
R2R0	A – 1
R2R1	A – 3
R2R2	B – 5
R2R4	A – 3
R2R6	A – 3
R2R8	A – 5
R2T1	A – 5
R2T4	B – 5
R2T5	B – 6
R2T7	B – 6
R311	C – 1
R312	C – 2
R314	B – 1
R315	B – 2
R316	B – 1
R317	B – 2
R318	B – 2
R320	B – 1
R322	B – 1
R323	B – 1
R324	B – 2
R327	B – 2
R328	B – 2
R330	C – 2
R331	C – 2
R332	C – 2
R334	C – 2
R337	B – 2
R360	D – 1
R361	C – 1
R362	C – 1
R363	C – 2
R364	C – 1
R366	C – 2
R367	C – 2
R369	B – 2
R4A1	C – 3
R4A3	C – 3
R4A4	C – 3
R4A5	C – 3

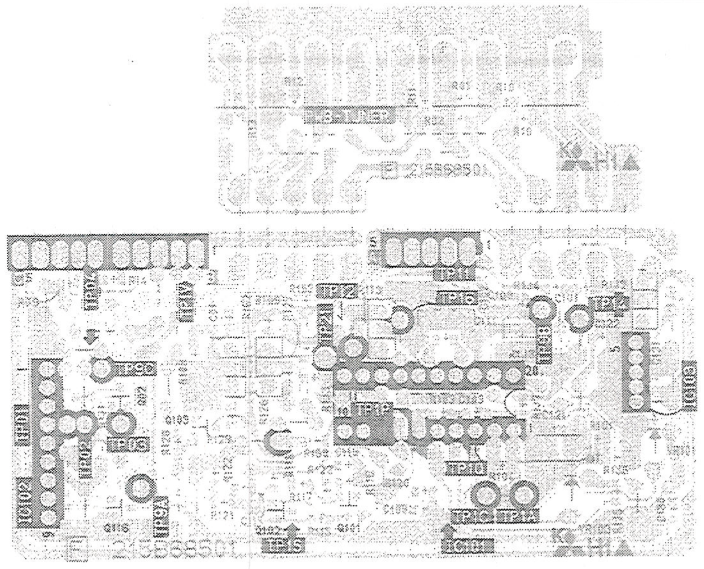
SYMBOL NO.	ADD
R4A9	C –
R4B1	C –
R4B2	C –
R4B3	B –
R4B4	C –
R4B5	C –
R4B6	C –
R4B7	C –
R4C0	C –
R4C3	C –
R4C5	C –
R4C8	C –
R4C9	D –
R4D0	C –
R4D1	C –
R4D2	B –
R4D3	C –
R4D4	C –
R4D5	C –
R4D6	C –
R4D7	C –
R4D8	C –
R4D9	C –
R4E0	C –
R4E3	C –
R4E4	C –
R4E5	C –
R4E6	C –
R4E7	C
R4E8	C –
R4E9	C
R4F1	C –
R4F2	C –
R4F4	C
R4G0	D
R4G1	D
R4G2	D
R4G3	D
R4H0	D
R4H1	C
R4Q0	C
R4Q1	D
R4Q3	C
R4R2	C
R4S0	C
R4S1	C
R5A3	C
R5A4	D
R5A6	C
R5A7	C
R5A8	C
R5A9	C
R5B0	C
R5B1	C
R5B2	C
R5B3	C
R5B4	B
R5B7	C
R5B8	C
R5C4	C

ESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS
5	IC4A0	B – 3	Q2D4	B – 6	Q5J3	C – 1	R2J8	A – 4	R4A9	C – 3	R5C5	C – 5	R5M5	C – 4	TP2M	A – 4
2	IC4A1	C – 4	Q2D5	A – 6	Q5J4	A – 2	R2J9	A – 4	R4B1	C – 3	R5C6	C – 5	R5M6	C – 5	TP2R	C – 4
2	IC4A2	D – 3	Q2D6	B – 1	Q5J5	B – 2	R2K0	A – 4	R4B2	C – 3	R5C7	C – 5	R5N0	C – 2	TP2S	A – 4
6	IC5A0	C – 4	Q2D8	A – 1	Q5J6	C – 1	R2K1	A – 5	R4B3	B – 3	R5C8	B – 4	R5N4	C – 5	TP3E	C – 2
2	IC5A2	C – 6	Q2E1	B – 3	Q5J7	C – 1	R2K4	B – 1	R4B4	C – 3	R5D2	C – 4	R5N8	B – 3	TP3F	C – 2
3	IC5A3	C – 5	Q2E3	B – 4			R2K6	B – 1	R4B5	C – 3	R5D3	B – 4	R5P2	B – 6	TP5A	D – 5
4	IC651	A – 3	Q2P0	A – 5	R1M0	B – 1	R2L3	A – 1	R4B6	C – 3	R5D4	C – 4	R5P3	C – 6	TP5B	B – 6
4			Q2P1	A – 6	R1N0	A – 2	R2L6	A – 1	R4B7	C – 3	R5D6	C – 5	R5P4	B – 6	TP5C	C – 5
4	L11	B – 1	Q2P2	A – 6	R1N1	A – 2	R2L9	A – 1	R4C0	C – 3	R5D8	C – 4	R5P5	B – 6	TP5D	C – 5
	L12	B – 2	Q2P4	B – 4	R1N2	A – 2	R2M0	A – 1	R4C3	C – 3	R5D9	C – 4	R5P6	B – 2	TP6A	A – 4
4	L2A0	B – 5	Q2P6	A – 5	R1N4	A – 2	R2M2	A – 1	R4C5	C – 3	R5E2	B – 3	R5P7	A – 2	TP6B	A – 3
	L2A8	A – 3	Q2P7	A – 5	R1N5	A – 2	R2M3	A – 1	R4C8	C – 4	R5E3	B – 3	R5P8	C – 5	TPGND	A – 5
1	L2A9	A – 3	Q2R2	A – 3	R1N7	A – 2	R2N5	B – 6	R4C9	D – 3	R5E4	B – 3	R5P9	C – 5		
	L2B0	A – 3	Q2S1	B – 3	R1N8	A – 2	R2N6	B – 6	R4D0	C – 4	R5E5	B – 2	R5Q0	C – 5	VR2A0	A – 5
5	L2B1	A – 3	Q2S3	B – 5	R202	A – 5	R2P2	A – 6	R4D1	C – 4	R5E6	B – 2	R5Q2	B – 6	VR2A1	A – 4
5	L2B2	A – 3	Q2S4	B – 5	R204	B – 6	R2P3	A – 6	R4D2	B – 4	R5E7	B – 2	R5Q4	C – 4	VR2A2	A – 4
3	L2B4	B – 5	Q310	C – 2	R205	B – 5	R2P4	A – 6	R4D3	C – 3	R5E9	B – 2	R5Q5	B – 4	VR2A3	A – 5
1	L2B5	B – 3	Q4A1	C – 3	R206	A – 5	R2P5	A – 6	R4D4	C – 4	R5F0	B – 3	R5Q6	B – 4	VR2A5	A – 5
1	L2B6	A – 4	Q4A3	C – 3	R207	B – 3	R2P7	A – 3	R4D5	C – 4	R5F1	B – 3	R5Q8	B – 3	VR310	C – 1
5	L2B7	B – 4	Q4A4	C – 3	R208	B – 4	R2P9	B – 5	R4D6	C – 3	R5F4	B – 2	R5Q8	B – 4	VR311	B – 1
3	L2B8	B – 5	Q4A5	C – 3	R209	B – 4	R2R0	A – 1	R4D7	C – 3	R5F5	D – 6	R5Q9	C – 5	VR4A0	C – 3
3	L2B9	B – 5	Q4A7	C – 4	R210	A – 1	R2R1	A – 3	R4D8	C – 4	R5F6	D – 6	R5R1	B – 4	VR652	A – 3
2	L2C0	B – 6	Q4A8	C – 4	R211	A – 4	R2R2	B – 5	R4D9	C – 4	R5F7	D – 6	R5R3	C – 3		
3	L2C1	A – 6	Q4A9	C – 3	R212	A – 4	R2R4	A – 3	R4E0	C – 4	R5F8	D – 6	R5R4	B – 3	X2A0	B – 5
4	L2C2	B – 6	Q4G0	C – 2	R213	A – 4	R2R6	A – 3	R4E3	C – 3	R5F9	C – 6	R5R5	C – 5		
1	L2C3	B – 1	Q4S0	C – 3	R256	A – 5	R2R8	A – 5	R4E4	C – 4	R5G0	C – 5	R5R6	C – 5		
1	L2C6	A – 1	Q5A0	C – 4	R2D2	A – 3	R2T1	A – 5	R4E5	C – 4	R5G1	D – 4	R5R8	C – 5		
4	L2P1	A – 6	Q5A1	C – 5	R2D3	B – 3	R2T4	B – 5	R4E6	C – 4	R5G2	D – 4	R5S2	C – 5		
5	L2P5	A – 5	Q5A3	C – 5	R2D4	A – 3	R2T5	B – 6	R4E7	C – 4	R5G3	C – 4	R5S3	B – 4		
4	L2P6	A – 3	Q5A4	C – 4	R2D5	A – 3	R2T7	B – 6	R4E8	C – 4	R5H0	D – 6	R5S4	A – 2		
2	L310	C – 2	Q5A5	C – 4	R2D6	A – 3	R311	C – 1	R4E9	C – 4	R5H1	C – 6	R5S5	B – 4		
2	L311	B – 2	Q5A6	C – 4	R2D8	A – 3	R312	C – 2	R4F1	C – 4	R5H3	D – 6	R5S8	D – 4		
5	L312	B – 2	Q5A7	C – 3	R2E2	A – 3	R314	B – 1	R4F2	C – 3	R5H4	C – 6	R5S9	D – 1		
5	L313	B – 2	Q5A8	B – 6	R2E5	B – 3	R315	B – 2	R4F4	C – 3	R5H5	D – 6	R5T0	C – 6		
5	L4A0	B – 3	Q5A9	B – 5	R2E6	B – 3	R316	B – 1	R4G0	D – 3	R5H6	C – 6	R5T1	B – 5		
2	L4G0	B – 3	Q5B0	C – 2	R2E7	B – 3	R317	B – 2	R4G1	D – 3	R5H7	C – 5	R5T2	B – 2		
2	L5A0	B – 3	Q5B1	C – 2	R2E8	B – 3	R318	B – 2	R4G2	D – 3	R5H8	D – 6	R5T3	C – 2		
2	L5A1	C – 4	Q5B3	C – 5	R2F1	A – 3	R320	B – 1	R4G3	D – 3	R5H9	D – 6	R5T4	C – 2		
1	L5A2	C – 4	Q5B4	B – 4	R2F2	A – 3	R322	B – 1	R4H0	D – 3	R5J1	C – 4	R5T5	C – 2		
3	L5A3	D – 4	Q5B5	B – 3	R2F3	B – 3	R323	B – 1	R4H1	C – 4	R5J2	B – 2	R5T7	C – 5		
5	L5A5	B – 2	Q5B7	C – 2	R2F4	B – 3	R324	B – 2	R4Q0	C – 4	R5J3	C – 1	R5U0	B – 2		
5	L651	A – 4	Q5C0	B – 5	R2F6	A – 3	R327	B – 2	R4Q1	D – 4	R5J4	C – 1	R5U1	B – 2		
3			Q5C3	C – 5	R2F7	A – 3	R328	B – 2	R4Q3	C – 3	R5J7	C – 1	R5U2	B – 2		
4	Q01	A – 2	Q5D1	C – 5	R2G0	A – 5	R330	C – 2	R4R2	C – 3	R5J8	C – 1	R5U3	C – 1		
5	Q1N1	A – 2	Q5G0	B – 2	R2G1	A – 5	R331	C – 2	R4S0	C – 3	R5J9	C – 1	R5U4	D – 4		
5	Q2B1	A – 3	Q5G1	B – 2	R2G2	A – 5	R332	C – 2	R4S1	C – 3	R5K4	D – 1	R652	A – 3		
6	Q2B2	A – 3	Q5G2	B – 2	R2G3	A – 5	R334	C – 2	R5A3	C – 4	R5K5	C – 1	R653	A – 3		
1	Q2B5	A – 3	Q5G3	B – 4	R2G4	B – 4	R337	B – 2	R5A4	D – 4	R5K6	C – 1	R655	A – 4		
1	Q2B6	B – 3	Q5G4	A – 2	R2G7	A – 5	R360	D – 1	R5A6	C – 5	R5K7	C – 1	R655	A – 4		
	Q2B8	B – 3	Q5G5	A – 2	R2G8	B – 5	R361	C – 1	R5A7	C – 5	R5K8	C – 1	R657	A – 4		
3	Q2B9	A – 3	Q5G6	A – 2	R2G9	B – 5	R362	C – 1	R5A8	C – 5	R5L0	C – 3	R658	A – 4		
4	Q2C3	A – 5	Q5G7	A – 3	R2H1	B – 5	R363	C – 2	R5A9	C – 5	R5L1	C – 2	R662	A – 4		
	Q2C4	B – 5	Q5G8	A – 2	R2H4	B – 3	R364	C – 1	R5B0	C – 5	R5L2	C – 2				
5	Q2C5	B – 5	Q5G9	A – 3	R2H6	B – 4	R366	C – 2	R5B1	C – 5	R5L3	B – 3	T310	C – 1		
5	Q2C6	B – 6	Q5H0	D – 5	R2H7	B – 4	R367	C – 2	R5B2	C – 4	R5L4	C – 5				
1	Q2C7	B – 6	Q5H2	B – 2	R2H9	B – 4	R369	B – 2	R5B3	C – 5	R5L6	C – 5	TP2A	B – 3		
1	Q2C8	B – 5	Q5H4	B – 5	R2J2	B – 4	R4A1	C – 3	R5B4	B – 2	R5M1	B – 3	TP2D	A – 5		
1	Q2C9	B – 4	Q5J0	C – 1	R2J3	B – 4	R4A3	C – 3	R5B7	C – 5	R5M2	C – 5	TP2E	A – 5		
1	Q2D0	B – 3	Q5J1	C – 1	R2J5	A – 6	R4A4	C – 3	R5B8	C – 5	R5M3	C – 5	TP2H	C – 4		
2	Q2D1	B – 4	Q5J2	C – 1	R2J7	B – 5	R4A5	C – 3	R5C4	C – 5	R5M4	C – 5	TP2J	B – 1		

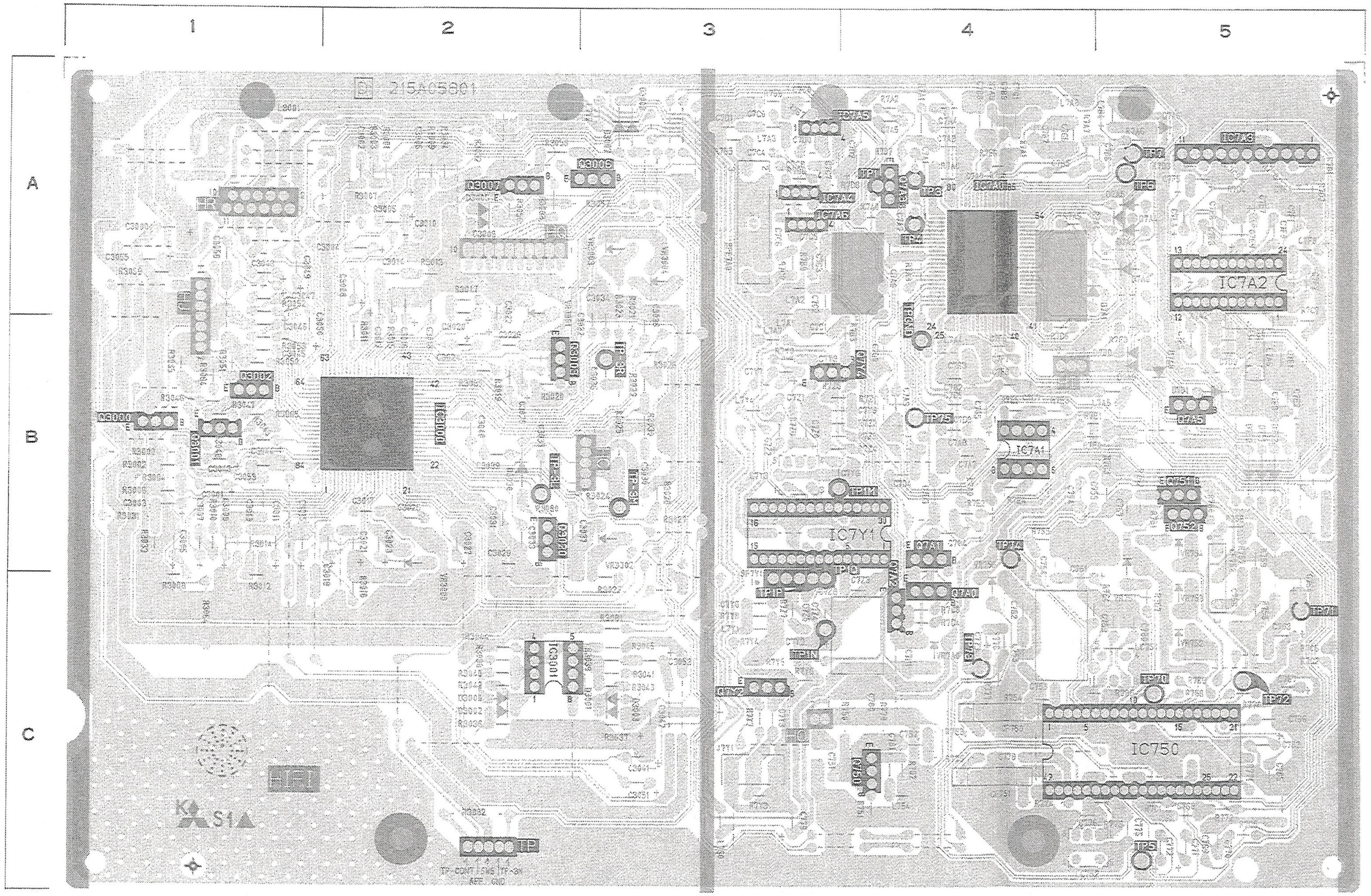
PCB POWER SUB



PCB TUNER



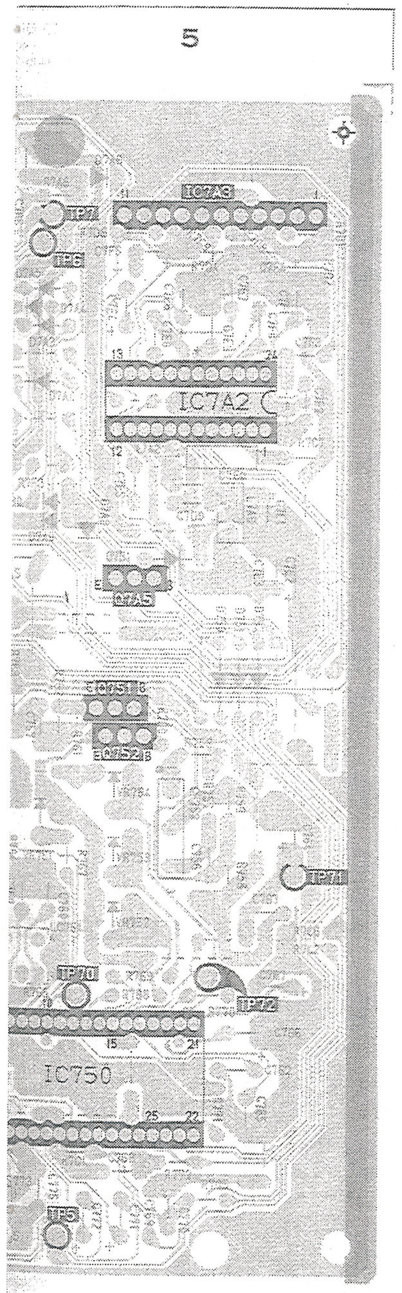
PCB HIFI


1
2
3
4
5
A
B
C
215A05801
IC3000
IC3001
IC7Y1
IC7A0
IC7A1
IC7A2
IC7A3
IC7A4
IC7A5
IC7A6
IC750
Q3000
Q3001
Q3002
Q3006
Q3007
Q3020
Q7A0
Q7A1
Q7Y2
Q750
D7A5
CF751
CF752
TP1M
TP1N
TP1P
TP1Q
TP1
TP3
TP4
TP5
TP6
TP7
TP70
TP71
TP72
TP73
TP74
TP75
TPGND
TP-3L
TP-3M
TP-3R
TP
HIFI
S1

PCB HIFI

SYMBOL NO.	ADDRESS
BPF7A0	A – 3
CF750	C – 4
CF751	C – 4
CF752	B – 5
D30005	A – 2
D3000	C – 2
D3001	C – 3
D3002	C – 2
D3003	C – 3
D3006	A – 2
D3007	A – 3
D3008	A – 3
D3020	B – 2
D750	B – 5
D751	B – 5
D752	B – 5
D7A0	A – 5
D7A1	A – 5
D7A3	A – 5
D7A4	A – 5
D7A5	A – 5
D7A6	A – 5
D7A8	B – 5
D7A9	B – 5
D7B0	B – 5
D7B1	B – 5
IC3000	B – 2
IC3001	C – 2
IC750	C – 5
IC7A0	A – 4
IC7A1	B – 4
IC7A2	A – 5
IC7A3	A – 5
IC7A4	A – 3
IC7A5	A – 3
IC7A6	A – 3
IC7Y1	B – 3
L3001	A – 1
L750	C – 3
L753	C – 4
L754	C – 4
L7A0	B – 4
L7A1	A – 3
L7A2	A – 3
L7A3	A – 3
L7A4	B – 4
L7A5	B – 5
L7A6	B – 5
L7A7	B – 3
L7A8	A – 4
L7Y1	C – 3
L7Y2	A – 3
L7Y3	B – 3
L7Y4	B – 3
LC751	C – 5

SYMBOL NO.	ADDRESS
LC752	C – 4
Q3000	B – 1
Q3001	B – 1
Q3002	B – 1
Q3003	B – 2
Q3006	A – 3
Q3007	A – 2
Q3020	B – 2
Q750	C – 4
Q751	B – 5
Q752	B – 5
Q7A0	B – 4
Q7A1	B – 4
Q7A2	C – 4
Q7A3	A – 4
Q7A5	B – 5
Q7Y2	C – 3
Q7Y4	B – 3
SF7Y1	B – 3
TP – 3L	B – 2
TP – 3M	B – 3
TP – 3R	B – 3
TP1M	B – 3
TP1N	C – 3
TP1P	B – 3
TP1Q	B – 4
TP1	A – 4
TP3	A – 4
TP4	A – 4
TP5	C – 5
TP6	A – 5
TP70	C – 5
TP71	C – 5
TP72	C – 5
TP73	C – 4
TP74	B – 4
TP75	B – 4
TP7	A – 5
TPGND	B – 4
TP	C – 2
VR3000	B – 2
VR3001	A – 2
VR3002	B – 3
VR300	A – 3
VR3004	A – 3
VR751	B – 5
VR752	C – 5
VR753	B – 5
VR754	B – 5
VR756	B – 4
VR7A0	C – 4
X7A0	A – 4
X7A1	A – 4
X7A2	A – 5

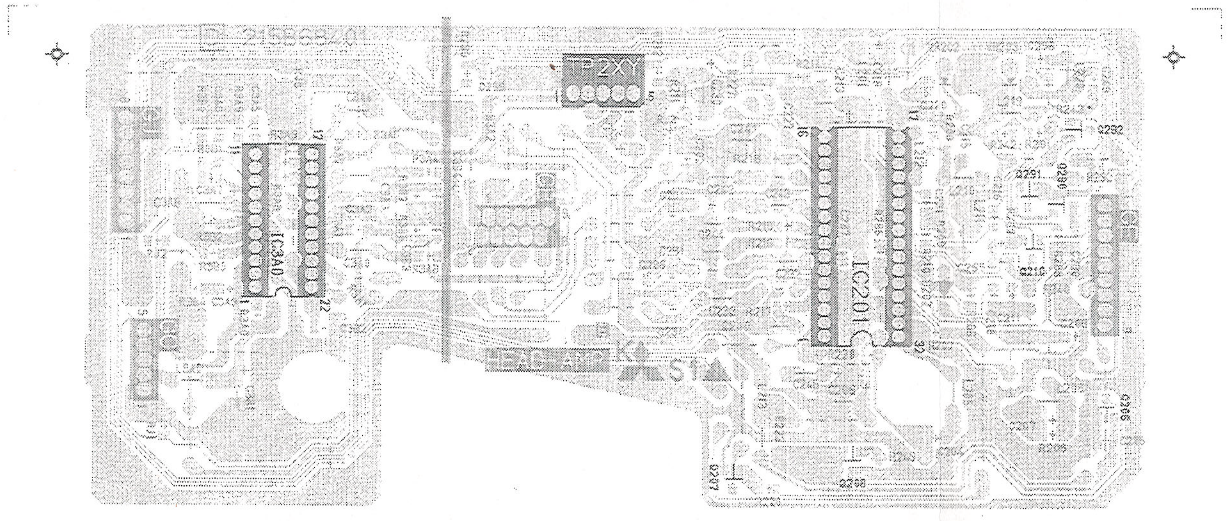

5
IC7A3
TP7
TP6
IC7A2
Q7A5
LC751
LC752
TP71
TP70
TP72
IC750
TP5

PCB HIFI

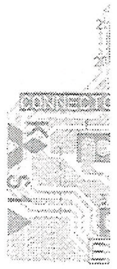
SYMBOL NO.	ADDRESS
BPF7A0	A – 3
CF750	C – 4
CF751	C – 4
CF752	B – 5
D30005	A – 2
D3000	C – 2
D3001	C – 3
D3002	C – 2
D3003	C – 3
D3006	A – 2
D3007	A – 3
D3008	A – 3
D3020	B – 2
D750	B – 5
D751	B – 5
D752	B – 5
D7A0	A – 5
D7A1	A – 5
D7A3	A – 5
D7A4	A – 5
D7A5	A – 5
D7A6	A – 5
D7A8	B – 5
D7A9	B – 5
D7B0	B – 5
D7B1	B – 5
IC3000	B – 2
IC3001	C – 2
IC750	C – 5
IC7A0	A – 4
IC7A1	B – 4
IC7A2	A – 5
IC7A3	A – 5
IC7A4	A – 3
IC7A5	A – 3
IC7A6	A – 3
IC7Y1	B – 3
L3001	A – 1
L750	C – 3
L753	C – 4
L754	C – 4
L7A0	B – 4
L7A1	A – 3
L7A2	A – 3
L7A3	A – 3
L7A4	B – 4
L7A5	B – 5
L7A6	B – 5
L7A7	B – 3
L7A8	A – 4
L7Y1	C – 3
L7Y2	A – 3
L7Y3	B – 3
L7Y4	B – 3
LC751	C – 5

SYMBOL NO.	ADDRESS
LC752	C – 4
Q3000	B – 1
Q3001	B – 1
Q3002	B – 1
Q3003	B – 2
Q3006	A – 3
Q3007	A – 2
Q3020	B – 2
Q750	C – 4
Q751	B – 5
Q752	B – 5
Q7A0	B – 4
Q7A1	B – 4
Q7A2	C – 4
Q7A3	A – 4
Q7A5	B – 5
Q7Y2	C – 3
Q7Y4	B – 3
SF7Y1	B – 3
TP – 3L	B – 2
TP – 3M	B – 3
TP – 3R	B – 3
TP1M	B – 3
TP1N	C – 3
TP1P	B – 3
TP1Q	B – 4
TP1	A – 4
TP3	A – 4
TP4	A – 4
TP5	C – 5
TP6	A – 5
TP70	C – 5
TP71	C – 5
TP72	C – 5
TP73	C – 4
TP74	B – 4
TP75	B – 4
TP7	A – 5
TPGND	B – 4
TP	C – 2
VR3000	B – 2
VR3001	A – 2
VR3002	B – 3
VR300	A – 3
VR3004	A – 3
VR751	B – 5
VR752	C – 5
VR753	B – 5
VR754	B – 5
VR756	B – 4
VR7A0	C – 4
X7A0	A – 4
X7A1	A – 4
X7A2	A – 5

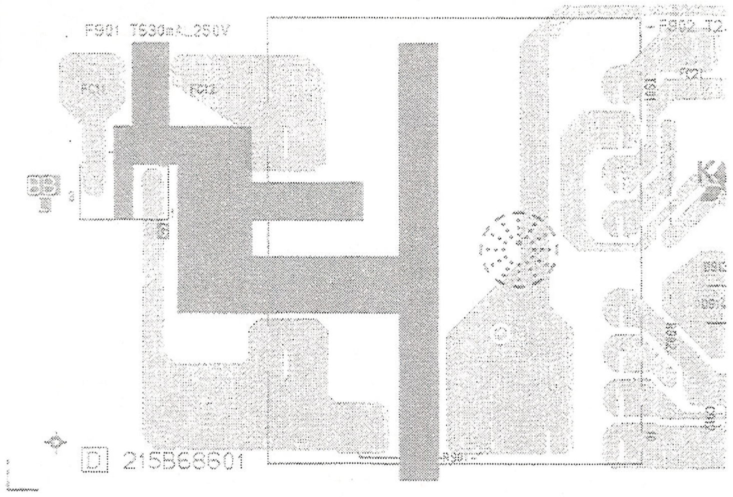
PCB HEAD AMP


215568Z01
TP2XY
IC3A0
IC201
HEAD AMP
S1

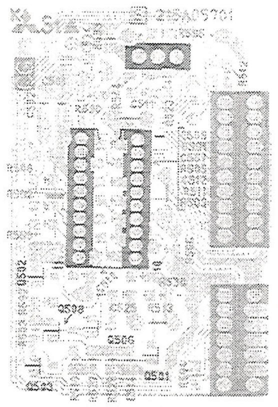
PCB C



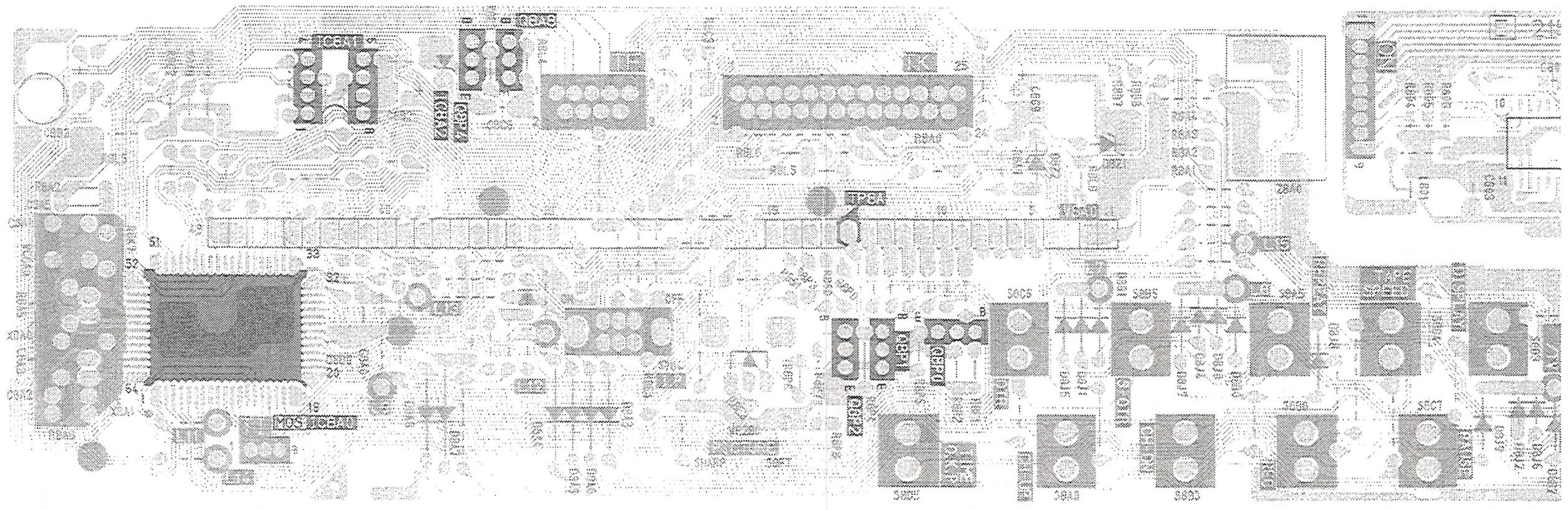
PCB POWER (Except (G))


F901 T630mA 250V
215568601

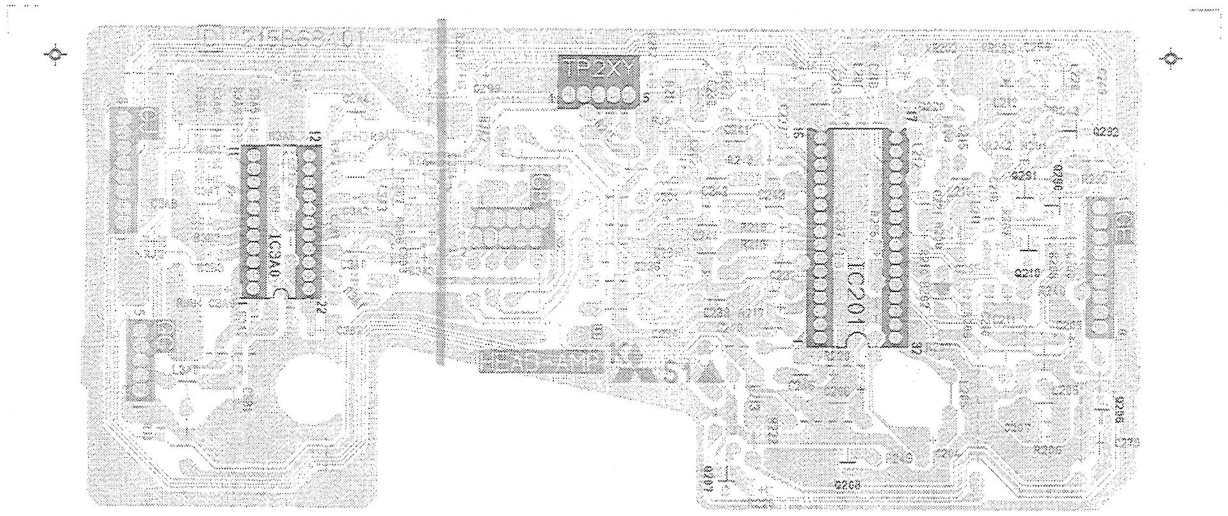
PCB CG


S1
215409701

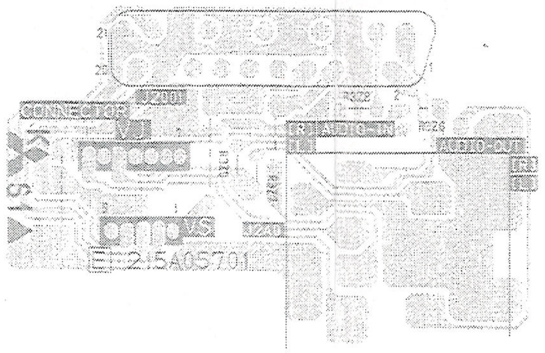
PCB TIMER/OPE



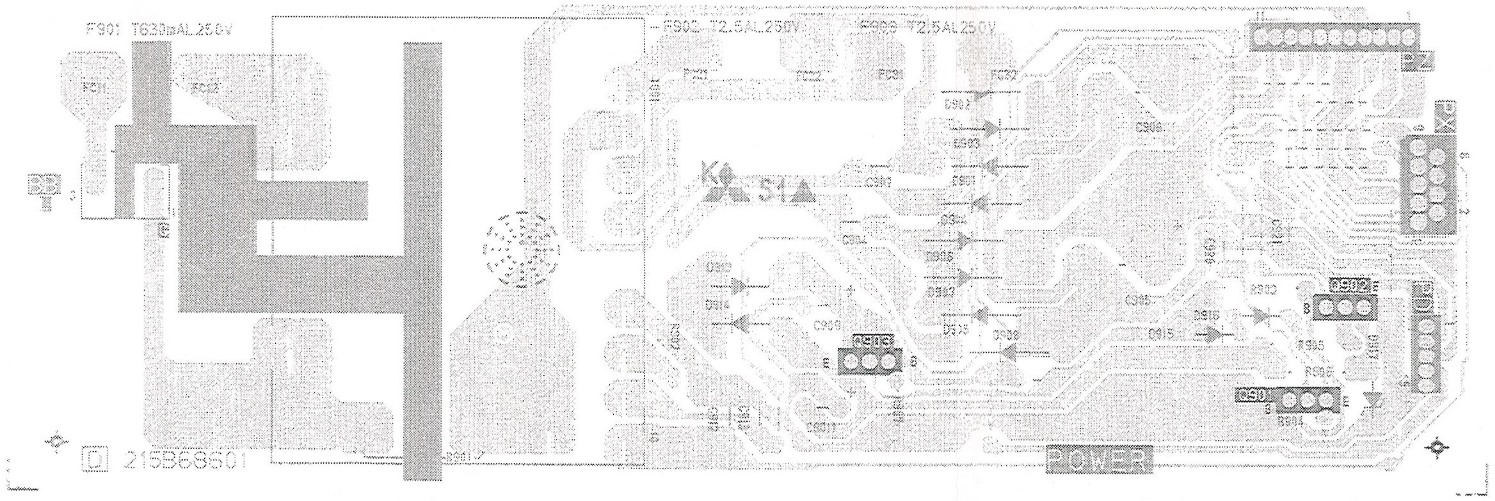
PCB HEAD AMP


215B68601
TP2XY
IC3A0
IC201
HEAD AMP
K S1

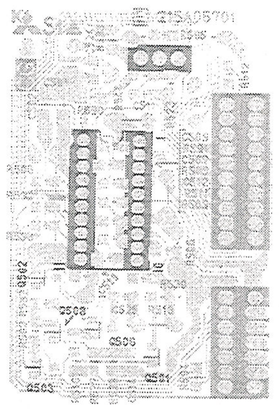
PCB CONNECTOR〔(Y)(B)(E)(IR) only〕


CONNECTOR
J2001
AUDIO IN
AUDIO OUT
VS
215A05701

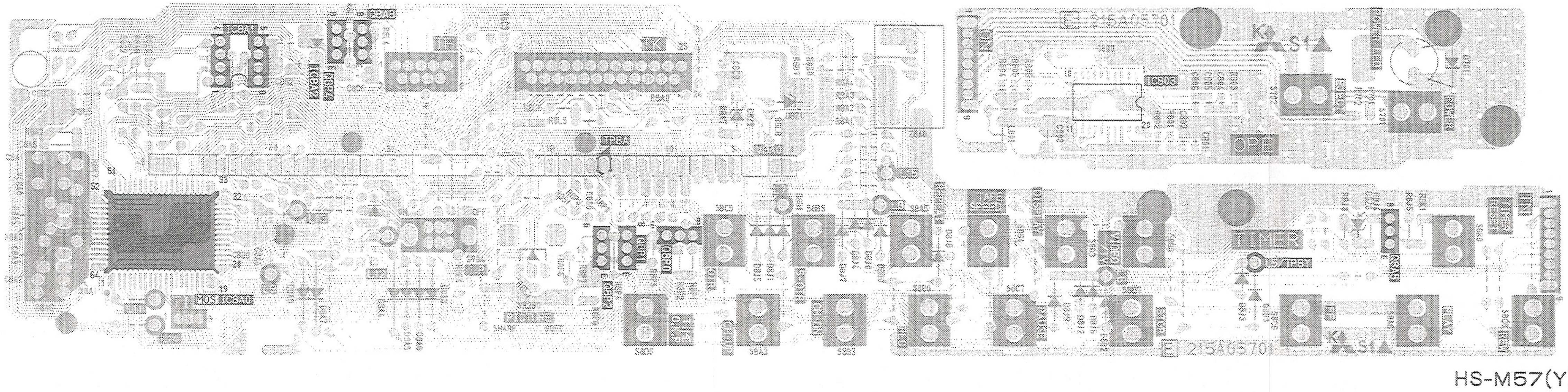
PCB POWER〔Except(G)〕


F901 T630mAL250V
F902 T2.5AL250V
F903 T2.5AL250V
K S1
Q902
Q901
215B68601
POWER

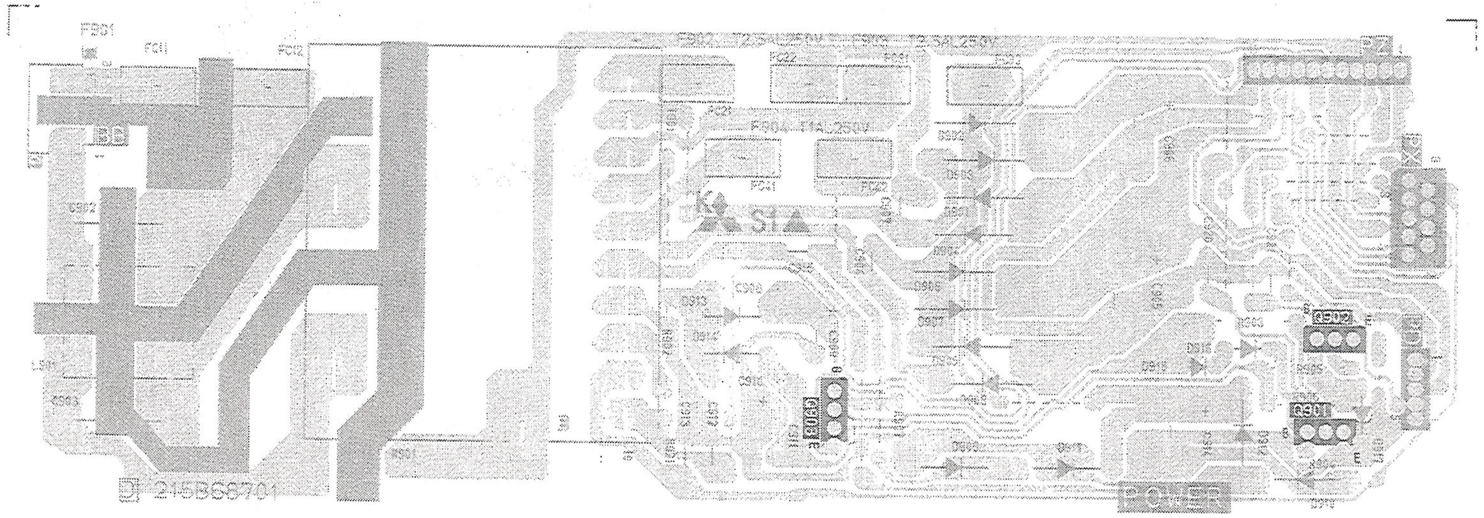
PCB CG


K S1
215A05701

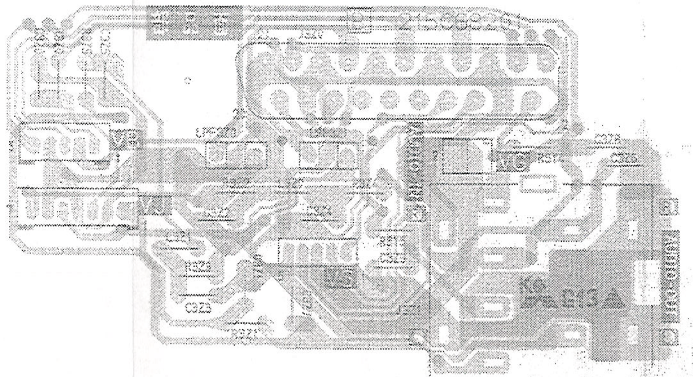
PCB TIMER/OPE


IC8A0
215A05701
K S1
OPE
TIMER
STBY

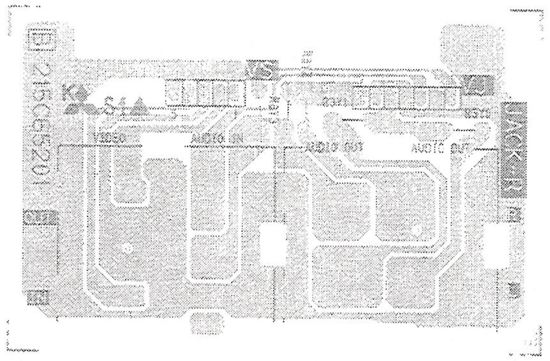
PCB POWER[(G) only]


POWER
215B68701

PCB CONNECTOR(COMPONENT SIDE)[(G) only]



PCB CONNECTOR[(A)(NZ) only]


215C6520
AUDIO IN
AUDIO OUT
JACK

PCB CONNECTOR(SOLDER SIDE)[(G) only]